Panasonic®

DVD Stereo System

Operating Instructions

Model No. **SC-DK10**

DVD VIDEO™

COMPACT disc DIGITAL VIDEO
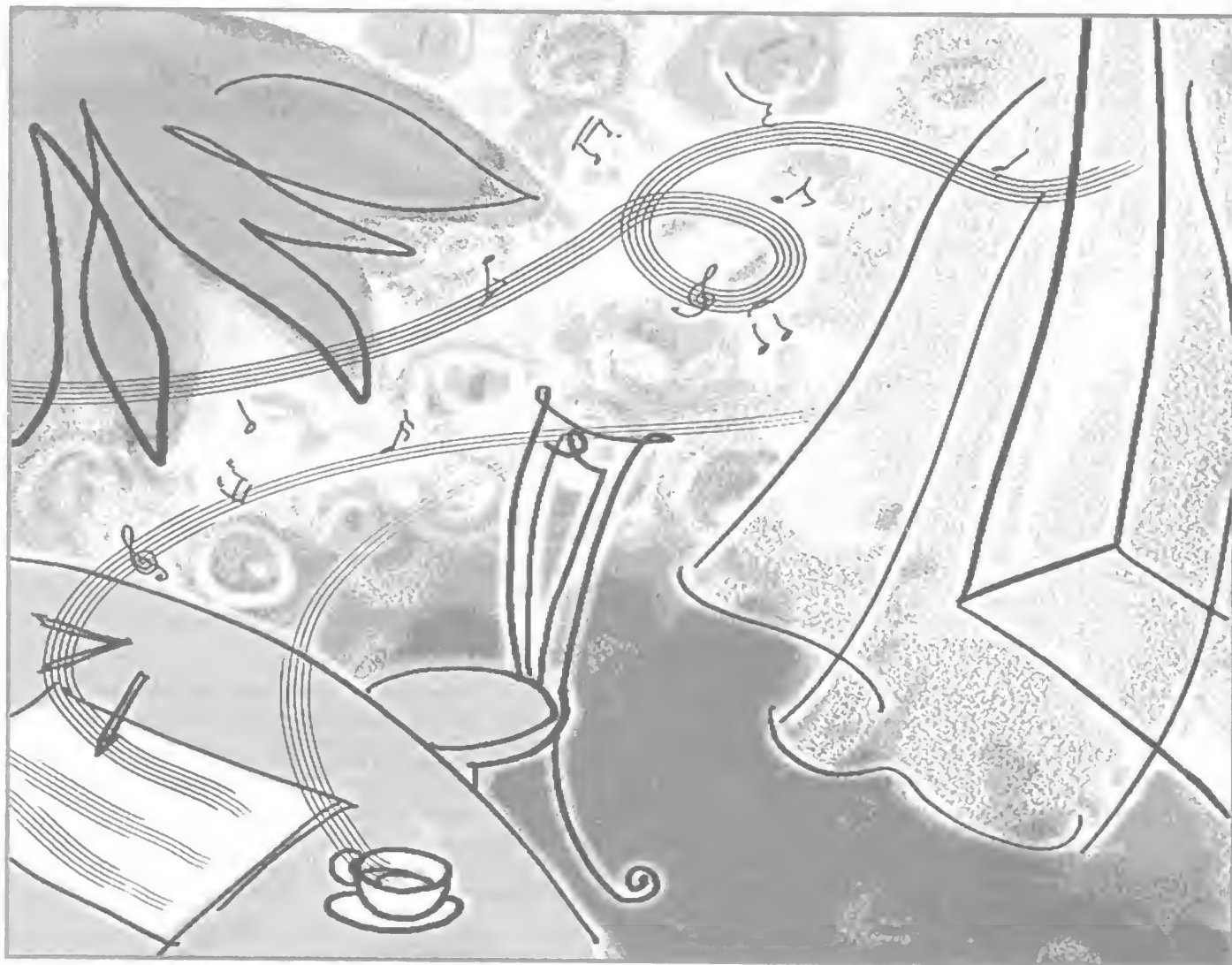
Before connecting, operating or adjusting this product, please read these instructions completely.
Please keep this manual for future reference.

The above illustration of the unit is an example and shows the model for the U.S.A.
This unit responds to the region number information on DVDs. The unit can only play DVDs if the region number of the disc matches the region number of this unit.
See page 5 for details.

P   PC   GCP   GN   GK   GC   GCS   PX

Dear customer

Thank you for purchasing this product.
For optimum performance and safety, please read these instructions carefully.
These operating instructions are applicable to the following system.

	For the Middle East, South Africa and Asia	For U.S.A., Canada and others
System	SC-DK10	SC-DK10
Main unit	SA-DK10	SA-DK10
Front speakers	SB-DK10	SB-DK10
Center speaker	SB-PC90	SB-PC93
Surround speakers	SB-PS90	SB-PS90

For areas except U.S.A., Canada, Australia, N.Z. and China

CAUTION:

Change the voltage setting to suit the AC voltage in your area. See page 9.
Note that the unit will be seriously damaged or fail to operate correctly if this setting is not made correctly.

CAUTION!

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.
DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF. REFER SERVICING TO QUALIFIED PERSONNEL.

CAUTION!

DO NOT INSTALL, OR PLACE THIS UNIT, IN A BOOKCASE, BUILT-IN CABINET OR IN ANOTHER CONFINED SPACE. ENSURE THE UNIT IS WELL VENTILATED. TO PREVENT RISK OF ELECTRIC SHOCK OR FIRE HAZARD DUE TO OVERHEATING, ENSURE THAT CURTAINS AND ANY OTHER MATERIALS DO NOT OBSTRUCT THE VENTILATION VENTS.

WARNING:

TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PRODUCT DAMAGE, DO NOT EXPOSE THIS APPLIANCE TO RAIN, SPLASHING, DRIPPING OR MOISTURE.

(Inside of product)

DANGER	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. (FDA 21 CFR)
CAUTION	- VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. (IEC60825-1)
ATTENTION	- RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO!	- AVATTAESSA OLET ALTTIINA NÄKYVÄÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING	- SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
ADVARSEL	- SYNLIG OG USYNLIG LASERSTRÅLING NÄR DEKSEL ÅPNES. UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT	- SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
注意	-打开时有可见及不可见激光辐射。耐免激光束照射。
注意	- ここを開くと可視及び不可視のレーザー光が出ます。 ビームを直視直たり、触れたりしないでください。 RQLS0233

For areas except U.S.A. and Canada

Back of product

CLASS 1
LASER PRODUCT

Table of contents

Supplied accessories

Please check and identify the supplied accessories. Use numbers indicated in parentheses when asking for replacement parts.
(Only for U.S.A.)
To order accessories contact 1-800-332-5368 or web site (http://www.panasonic.com).

☐ AC power supply cord . . . . 1 pc.

For U.S.A. and Canada (RJA0065-A)	For Australia and N.Z. (RJA0035-1X)
For China (RJA0055-1J)	For others (RJA0019-2K)

☐ FM indoor antenna . . . . 1 pc.

For China (RSA0007)	For others (RSA0006-J)

☐ Video cable . . . . 1 pc.
(RJL1P016B15A)

AM loop antenna .... 1 pc.
(RSA0033-1)

Remote control transmitter .... 1 pc.
For Australia and N.Z. (N2QAJB000025)
For China, the Middle East, South Africa and Asia
(N2QAJB000024)
For U.S.A., Canada and others (N2QAJB000023)

Remote control batteries .... 2 pcs.

Power plug adaptor .... 1 pc.
For areas except U.S.A., Canada, Australia, N.Z.,
China and Asia (SJP5213-2)

THE FOLLOWING APPLIES ONLY IN THE U.S.A.:

CAUTION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
• Reorient or relocate the receiving antenna.
• Increase the separation between the equipment and receiver.
• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
• Consult the dealer or an experienced radio/TV technician for help.

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

THE FOLLOWING APPLIES ONLY IN THE U.S.A. AND CANADA:

CAUTION:

TO PREVENT ELECTRIC SHOCK MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE SCREWS. NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Before use

IMPORTANT SAFETY INSTRUCTIONS

Read these operating instructions carefully before using the unit. Follow the safety instructions on the unit and the applicable safety instructions listed below. Keep these operating instructions handy for future reference.

1) Read these instructions.

2) Keep these instructions.

3) Heed all warnings.

4) Follow all instructions.

5) Do not use this apparatus near water.

6) Clean only with dry cloth.

7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

8) Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

11) Only use attachments/accessories specified by the manufacturer.

12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

13) Unplug this apparatus during lightning storms or when unused for long periods of time.

14) Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

In the U.S.A., contact the Panasonic Customer Call Center at 1-800-211-7262, or
e-mail consumerproducts@panasonic.com, or
web site (http://www.panasonic.com).
In Canada, contact Panasonic Canada Inc. Customer Care Centre at 1-800-561-5505, or
web site (www.panasonic.ca), or
an authorized Servicentre nearest you.

Listening caution

Selecting fine audio equipment such as the unit you've just purchased is only the start of your musical enjoyment. Now it's time to consider how you can maximize the fun and excitement your equipment offers. This manufacturer and the Electronic Industries Association's Consumer Electronics Group want you to get the most out of your equipment by playing it at a safe level. One that lets the sound come through loud and clear without annoying blaring or distortion—and, most importantly, without affecting your sensitive hearing.

We recommend you to avoid prolonged exposure to excessive noise.

Sound can be deceiving. Over time your hearing "comfort level" adapts to higher volumes of sound. So what sounds "normal" can actually be loud and harmful to your hearing.
Guard against this by setting your equipment at a safe level BEFORE your hearing adapts.
To establish a safe level:
• Start your volume control at a low setting.
• Slowly increase the sound until you can hear it comfortably and clearly, and without distortion.

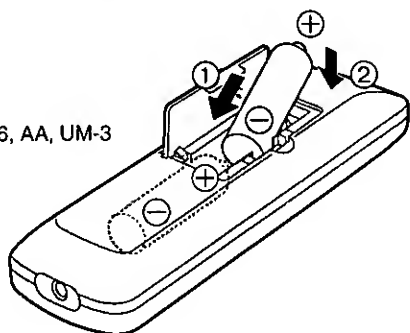Once you have established a comfortable sound level:
• Set the dial and leave it there.

Taking a minute to do this now will help to prevent hearing damage or loss in the future. After all, we want you listening for a lifetime.

The remote control

Batteries

R6/LR6, AA, UM-3

● Insert so the poles (+ and −) match those in the remote control.
● Do not use rechargeable type batteries.

Do not;
● mix old and new batteries.
● use different types at the same time.
● heat or expose to flame.
● take apart or short circuit.
● attempt to recharge alkaline or manganese batteries.
● use batteries if the covering has been peeled off.
● keep together with metallic objects such as necklaces.
Mishandling of batteries can cause electrolyte leakage which can damage items the fluid contacts and may cause a fire.
If electrolyte leaks from the batteries, consult your dealer.
Wash thoroughly with water if electrolyte comes in contact with any part of your body.

Remove if the remote control is not going to be used for a long period of time. Store in a cool, dark place.
Replace if the unit does not respond to the remote control even when held close to the front panel.

Use

Transmission window
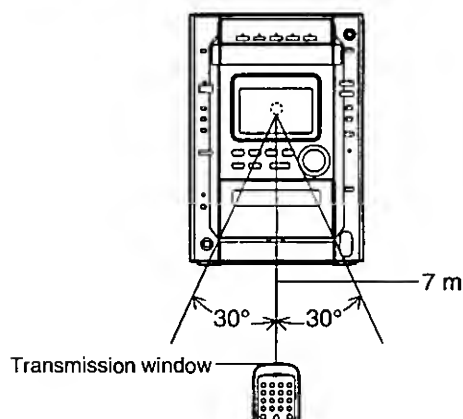
Aim at the sensor, avoiding obstacles, at a maximum range of 7 meters directly in front of the unit.
● Keep the transmission window and the unit's sensor free from dust.
● Operation can be affected by strong light sources, such as direct sunlight, and the glass doors on cabinets.

Do not;
● put heavy objects on the remote control.
● take the remote control apart.
● spill liquids onto the remote control.

Disc information

Region numbers

Region numbers are allocated to DVD players and software according to where they are sold.
DVDs can be played on this unit if their region number is the same or includes the same number, or if the DVD is marked "ALL".
Confirm the region number for this unit before choosing discs. The number for this unit is indicated on the rear panel.

(For example)

Rear panel
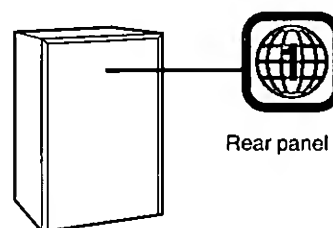
For U.S.A., Canada, and units with PX printed on the outer packaging
● The region number of this unit is "1".
● You can play DVDs marked with labels containing "1" or "ALL".

For the Middle East and South Africa
● The region number of this unit is "2".
● You can play DVDs marked with labels containing "2" or "ALL".

For Asia
● The region number of this unit is "3".
● You can play DVDs marked with labels containing "3" or "ALL".

For Australia, N.Z., and Latin America
● The region number of this unit is "4".
● You can play DVDs marked with labels containing "4" or "ALL".

For China
● The region number of this unit is "6".
● You can play DVDs marked with labels containing "6" or "ALL".

Disc symbols used in these operating instructions

The functions you can use depend on the type of disc you play. These marks are used to indicate which type of disc is available for use.

DVD: Feature can be used with DVD-Video

VCD: Feature can be used with Video CD

**CD**: Feature can be used with Audio CD

Playing DVDs and Video CDs
The producer of the material can control how these discs are played. This means that you may not be able to control play of a disc with some operations described in these operating instructions. Read the disc's instructions carefully.

Types of discs

This unit can playback discs bearing any of the marks:

DVD VIDEO   **DVD** (V I D E O)   COMPACT **disc** DIGITAL VIDEO   COMPACT **disc** DIGITAL AUDIO
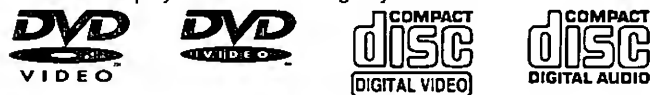
This unit does not have a DTS decoder so it cannot play audio encoded with DTS.

This unit cannot play the following discs:
- DVD with an unsuitable region number (➡ page 5)
- DVD-Audio
- DVD-ROM
- DVD-R
- DVD-RAM
- +RW
- DVD-RW
- DIVX Video Disc
- VSD
- CD-ROM
- CDV
- CVD
- CD-G
- SACD
- SVCD
- Photo CD, etc.

This unit can play CD-DA and video CD format audio CD-R and CD-RW that have been finalized* upon completion of recording.
It may not be able to play some CD-R or CD-RW due to the condition of the recording.

*Finalizing is a process that enables CD-R/CD-RW players to play audio CD-R and CD-RW.

MP3 playback
(For areas except Australia, N.Z., and China)

You can use this unit to play MP3 format audio recorded for personal use with a computer, etc., onto CD-R or CD-RW. Play may not be possible in some cases due to the condition of the recording.
Discs recorded using MP3 differ to CDs in the following ways.

- Structure of the disc (example)

```
        Title        Title
      ┌(Album)┐┌─(Album)─┐
      │1│2│3│4│5│6│7│8│9│
      Chapter (Track)
```
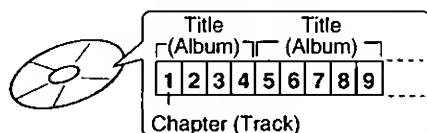
- Starting play from a selected chapter
  Press the numbered buttons and press [ENTER].
  Example: Chapter 23 [2]→[3]→[ENTER]
  (Pressing [≥10] is unnecessary.)
- Repeat play
  You can use chapter repeat or title repeat.
- Program play, random play and CD MANAGER
  You cannot use program play, random play and CD MANAGER.

Note
- Not compatible with multi-session recordings
  If you record MP3 onto CD-R/CD-RW over a number of sessions, this unit can play only the recordings made in the first session.
- Recordings will not necessarily be played in the order you recorded them.
  The recordings will be reordered according to their titles: numbers in numerical order first, upper case in alphabetical order next, and lower case in alphabetical order last.
- If you play an MP3 track that includes still picture data, it will take some time before the music itself starts playing and the elapsed time will not be displayed during this time.
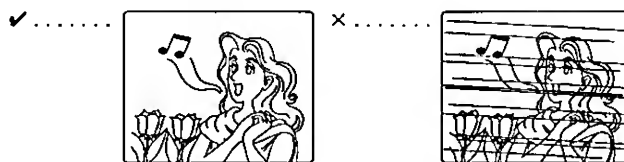 Even after the track starts, the correct play time will not be displayed.

Type of disc for the type of TV

DVDs and Video CDs are recorded using either PAL or NTSC.

For Australia, N.Z., China, the Middle East, South Africa and Asia

Refer to this table when selecting discs.
Example of how the picture appears on the screen

✔ . . . .   ✗ . . . .

TV type	Disc	TV Monitor	
		For the Middle East, South Africa, Australia and N.Z.	For China and Asia
Multi-system TV	PAL	✔	✔
	NTSC	✔*1	✔
NTSC TV	PAL	✗	✗
	NTSC	✗	✔*3
PAL TV	PAL	✔	✔
	NTSC	✔*2	✔*4

*1 If you select "NTSC" in "NTSC Disc Output" (➡ page 50), the picture may be clearer.
*2 The factory preset for "NTSC Disc Output" is "PAL60", so no changes to the initial settings are necessary.
(If your television is not equipped to handle PAL 525/60 signals the picture will not be shown correctly.)
*3 The factory preset for "NTSC Disc Output" is "NTSC", so no changes to the initial settings are necessary.
*4 Select "PAL60" in "NTSC Disc Output" (➡ page 50).
(If your television is not equipped to handle PAL 525/60 signals the picture will not be shown correctly.)

For U.S.A., Canada, Latin America and others

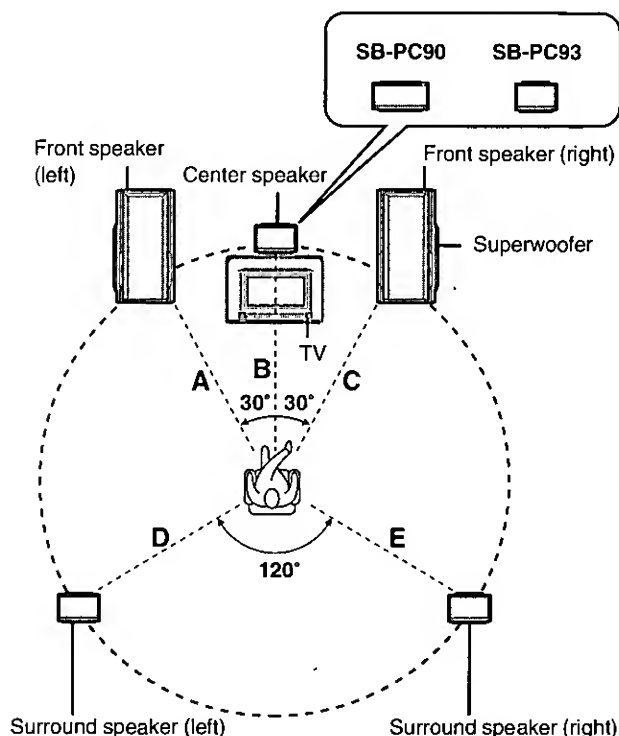The unit can playback only NTSC system discs.

Note
The bottom part of the picture may be cut off if the Video CD played does not comply with standards.

Simple set-up

STEP 1 Locating

Optimum location
Distance: A=B=C=D=E

SB-PC90   SB-PC93

Front speaker (left)
Center speaker
Front speaker (right)
Superwoofer
TV
A B C
30° 30°
120°
D E
Surround speaker (left)
Surround speaker (right)

Front speakers (SB-DK10)
Place so that the superwoofers face out.

Center speaker
● (For the Middle East, South Africa and Asia)
The medium-sized speaker is the center speaker (SB-PC90). ¯
● (For U.S.A., Canada and others)
The small speaker with the short cord is the center speaker (SB-PC93).
The model numbers are printed on the back of the speakers.

Surround speakers (SB-PS90)
The small speakers with the long cords are surround speakers.
Place either side of listening position, or slightly to the rear, about 1 meter higher than ear level with the Panasonic logo facing toward the listening position.
The effect varies with the type of music and music source.

Note
● Keep your speakers at least 10 mm (13/32") away from the system for proper ventilation.
● The superwoofers are located on the sides of the speakers. Leave 10-cm clearance for them to be effective.
● Do not place the center speaker on the main unit as sound quality will be affected.

Use only supplied speakers
Using other speakers can damage the unit and sound quality will negatively affected.

Attaching to a wall
Surround speakers can be attached to a wall.
Set the speaker onto screws and slide through bracket to lock into position.

70 mm
(2³/₄")

30–35 mm
(1³/₁₆"–1³/₈")
Ø7.5–9.5 mm
(¹⁹/₆₄"–³/₈")
7–9 mm
(⁹/₃₂"–²³/₆₄")
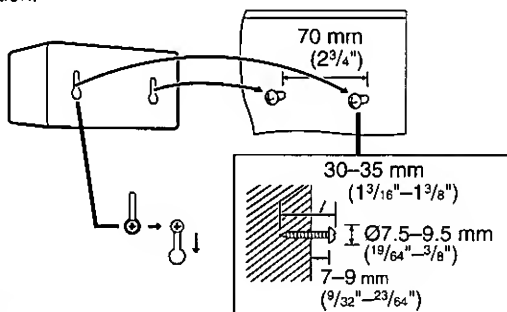
Note
The wall or pillar on which the speakers are to be attached should be capable of supporting 5 kg (11 lb.) per screw.

Caution
● Use the speakers only with the recommended system. Failure to do so may lead to damage to the amplifier and/or the speakers, and may result in the risk of fire. Consult a qualified service person if damage has occurred or if you experience a sudden change in performance.
● Do not attempt to attach these speakers to walls using methods other than those described in this manual.

Notes on speaker use
◪ You can damage your speakers and shorten their useful life if you play sound at high levels over extended periods.
◪ Reduce the volume in the following cases to avoid damage.
  ● When playing distorted sound.
  ● When the speakers are receiving howling from a microphone or record player, noise from FM broadcasts, or continuous signals from an oscillator, test disc, or electronic instrument.
  ● When adjusting the sound quality.
  ● When turning the unit on or off.

Positioning for best effect
How you set up your speakers can affect the bass and the sound field. Note the following points.
● Place speakers on flat secure bases.
● Placing speakers too close to floors, walls, and corners can result in excessive bass. Cover walls and windows with thick curtain.
● Place tweeters and other treble effect units at ear height.
● Place the front speakers at least 5 cm from walls as they have bass reflex ports in the rear.

If irregular coloring occurs on your television
These speakers are designed to be used close to a television, but the picture may be affected with some televisions and set-up combinations.
If this occurs, turn the television off for about 30 minutes.
The television's demagnetizing function should correct the problem. If it persists, move the speakers further away from the television.

Simple set-up

STEP 2 Speakers and TV

The illustrations show the model for U.S.A., Canada, Australia and N.Z.

Connect the cords to the terminals of same color.

- Never short-circuit positive (+) and negative (−) speaker wires.
- Be sure to connect only positive (red or gray) wires to positive (+) terminals and negative (black, blue or gray with blue line) wires to negative (−) terminals.
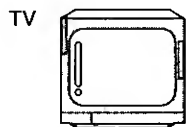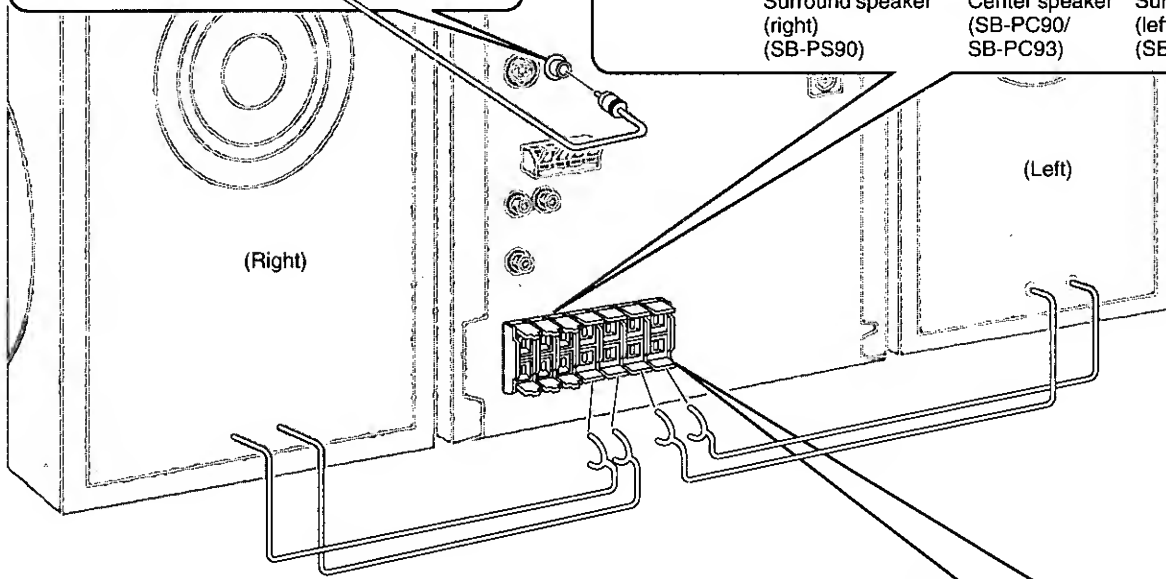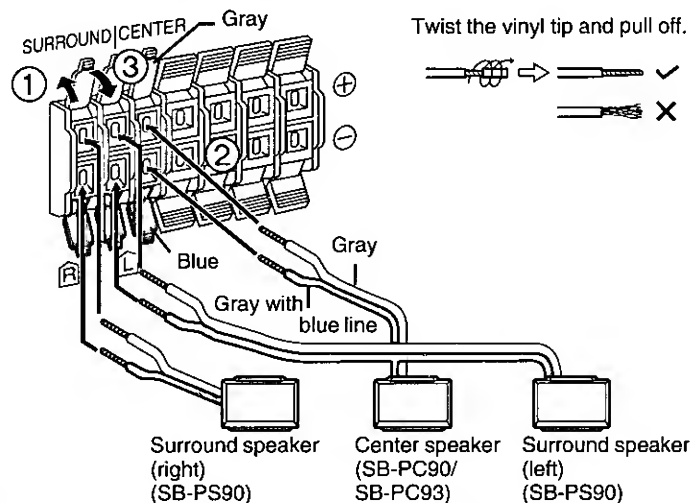
Incorrect connection can damage the speakers.

Connect directly to your TV.
Do not connect the unit through a video cassette recorder, because the picture may not be played correctly due to the copy guard.

TV

Center and surround speakers

SURROUND|CENTER — Gray

Twist the vinyl tip and pull off.

Blue

Gray

Gray with blue line

Gray

Surround speaker (right) (SB-PS90)

Center speaker (SB-PC90/ SB-PC93)

Surround speaker (left) (SB-PS90)

(Left)

(Right)

Front speakers

LF stands for low frequency.
The low frequency cords are red and black.
HF stands for high frequency.
The high frequency cords are gray and blue.

Gray

Red
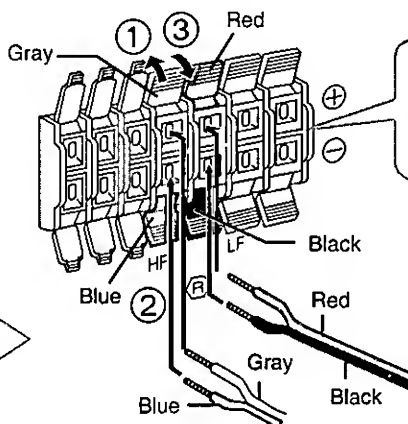
Connect the left (L) side in the same way.

HF

LF — Black

Blue

Twist the vinyl tip and pull off.

Red

Gray

Black

Blue

Simple set-up

STEP 3   Antennas and AC power supply cord
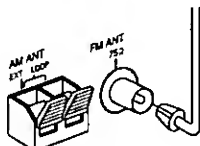
FM indoor antenna

Twist the vinyl tip and pull off.

Only for China

Fix the other end of the antenna where reception is best.
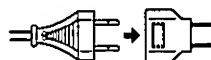
Adhesive tape

For areas except U.S.A., Canada, Australia, N.Z. and China
Set the voltage before connection (➡ below).

AC power supply cord

For areas except U.S.A., Canada, Australia, N.Z., China and Asia
If the power plug will not fit your socket, use the power plug adaptor (included).

Note
The included AC power supply cord is for use with this unit only. Do not use it with other equipment.

Conserving power
The unit consumes power even when it is turned off with [POWER ⏻/I]. To save power when the unit is not to be used for a long time, unplug it from the household AC outlet. Remember to reset the radio stations and any other memory items before using the unit again.

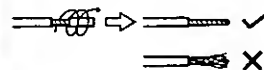U.S.A. and Canada: 0.25 W
Australia, N.Z. and China: 0.6 W
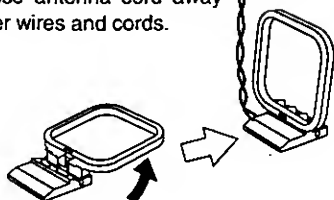Others: 0.8 W

For your reference
Information you enter into the unit's memory, except for time, remains intact for up to a week after the AC power supply cord is disconnected.

To household
AC outlet

AM loop antenna

Twist the vinyl tip and pull off.

✓

✗

Stand the antenna up on its base. Keep loose antenna cord away from other wires and cords.

Voltage setting
For areas except U.S.A., Canada, Australia, N.Z. and China

Use a flat-head screwdriver to turn the voltage selector to the appropriate position for your area.

127 V ↔ 110 V ↔ 220 V-230 V ↔ 240 V

VOLT ADJ

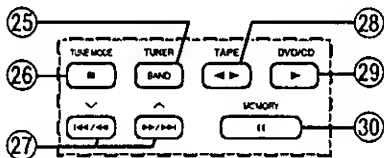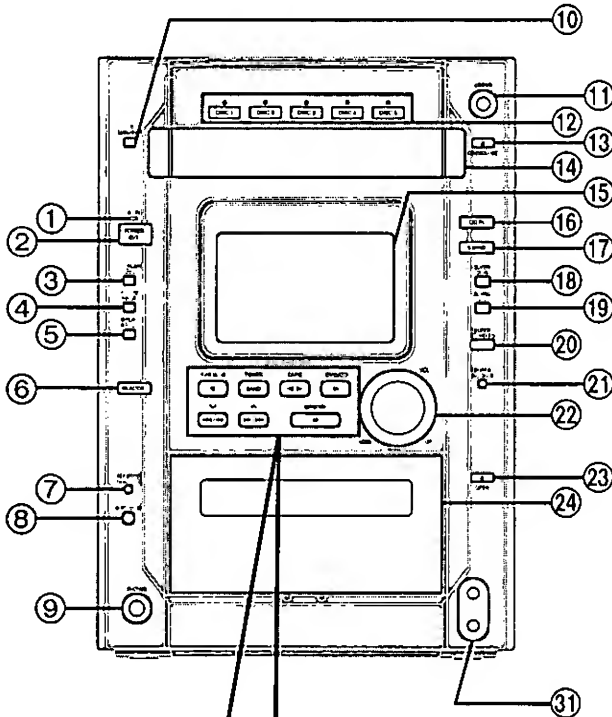If the power supply in your area is 115 V or 120 V, please set the voltage selector as follows.
For 115 V: Set to 110 V.
For 120 V: Set to 127 V.

Note that the unit will be seriously damaged or fail to operate correctly if this setting is not made correctly.

Main unit

The illustration is the model for China, the Middle East, South Africa and Asia.

① **AC supply indicator (AC IN)**
This indicator lights when the unit is connected to the AC mains supply.

② **Standby/on switch (POWER ○/l)**
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

③ **Display select/demonstration button**
(-DISPLAY/-DEMO) 12, 46

④ **Clock/timer button (CLOCK/TIMER)** 12, 43, 44

⑤ **Timer button (⊘PLAY/⊘REC)** 43, 44

⑥ **Source select button (SELECTOR)** 12, 48
Each time you press the button:
TUNER→TAPE→DVD/CD→AUX

⑦ **Tape reverse mode, FM mode, AM beat proof button**
(REV MODE/FM MODE/BP) 28, 30, 39

⑧ **Recording start/stop button (●REC/STOP)** 38

⑨ **Headphones jack (PHONES)** 46

⑩ **CD MANAGER button (CD MANAGER)** 24

⑪ **CINEMA mode button and indicator (CINEMA)** 18

⑫ **Disc direct select buttons and disc indicators**
(DISC 1 – DISC 5)

⑬ **Disc tray open/close button (▲ OPEN/CLOSE)** 14

⑭ **Disc tray**

⑮ **Display**

⑯ **DOLBY PRO LOGIC button and indicator (□□ PL)** 34

⑰ **Super surround button and indicator (S.SRND)** 36

⑱ **Super 3D AI EQ button (SUPER 3D AI)** 32

⑲ **Sound EQ button (SOUND EQ)** 31

⑳ **Super sound EQ button and indicator**
(SUPER SOUND EQ) 32

㉑ **Super woofer button and indicator**
(SUPER WOOFER) 31, 34

㉒ **Volume control (VOL)** 14, 28, 30

㉓ **Cassette holder open button (▲ OPEN)** 30

㉔ **Cassette holder**

㉕ **Tuner, band select button (TUNER, BAND)** 28
Press to select TUNER as the source.
Lights when TUNER is selected as the source.

㉖ **Disc/tape stop, tuning mode select button**
(■, TUNE MODE) 14, 28, 30

㉗ **Disc skip/search, tape fast-forward/rewind/TPS,**
tune/time adjust buttons
(I◄◄/◄◄, ∨, ►►/►►I, ∧) 12, 15, 28, 30

㉘ **Tape play button (TAPE ◄ ►)** 30
Press to select TAPE as the source.
Lights when TAPE is selected as the source.

㉙ **Disc play button (DVD/CD ►)** 14
Press to select DVD/CD as the source.
Lights when DVD/CD is selected as the source.

㉚ **Disc pause, memory button (II, MEMORY)** 15, 29
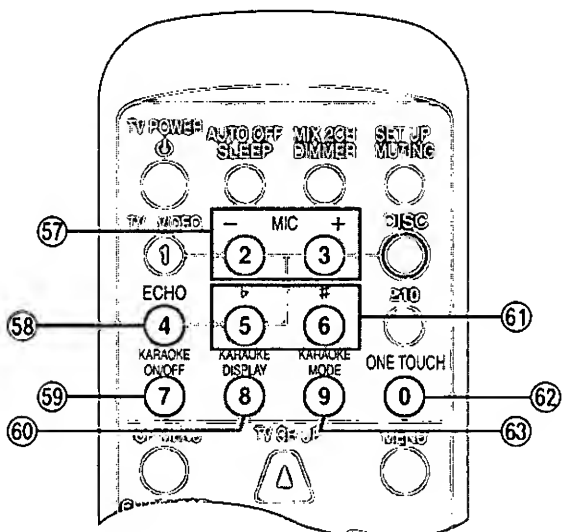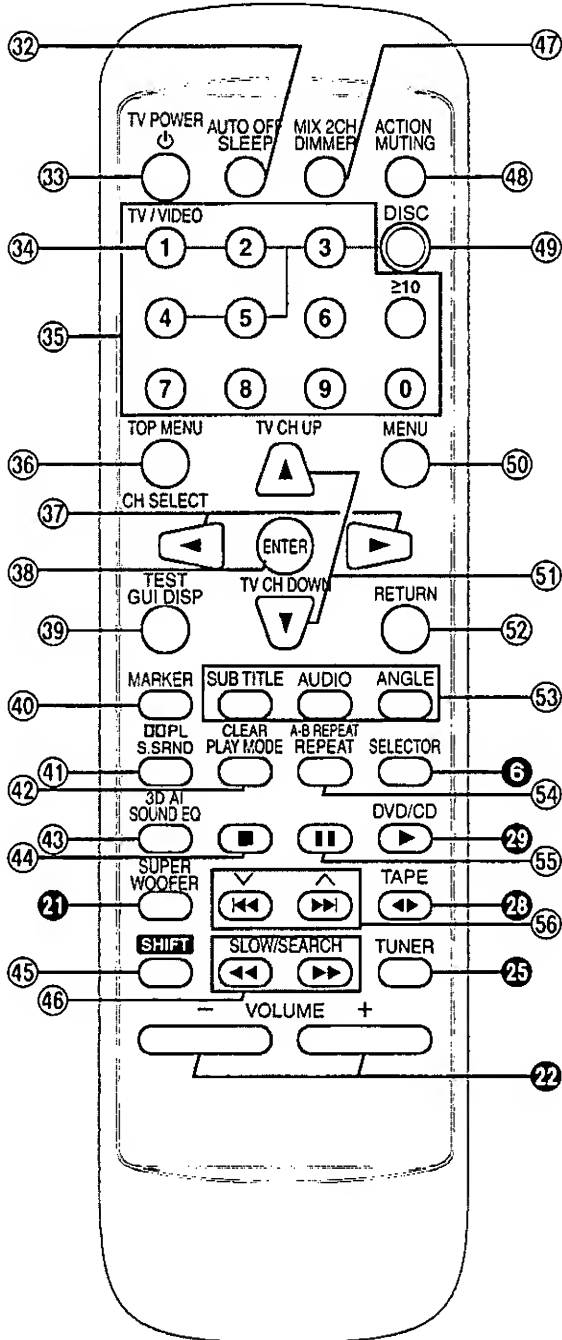
For China, the Middle East, South Africa and Asia

㉛ **Microphone jacks** 39

Control guide and preparatory steps

Remote control

The illustration shows the remote control for areas except Australia, N.Z., China, the Middle East, South Africa and Asia.

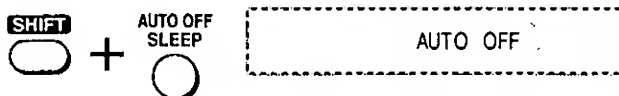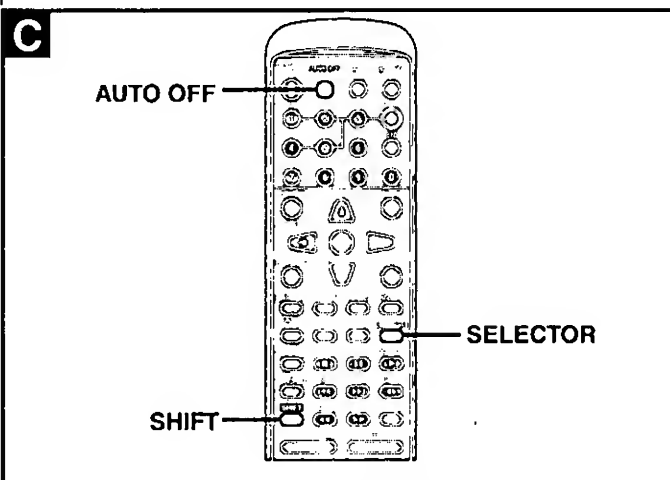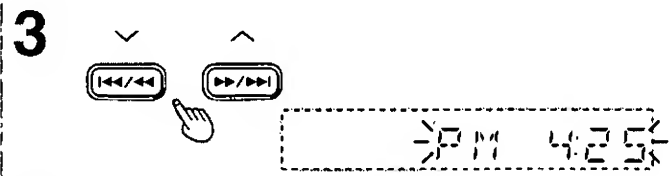Buttons such as ❻ function in the same way as the controls on the main unit.
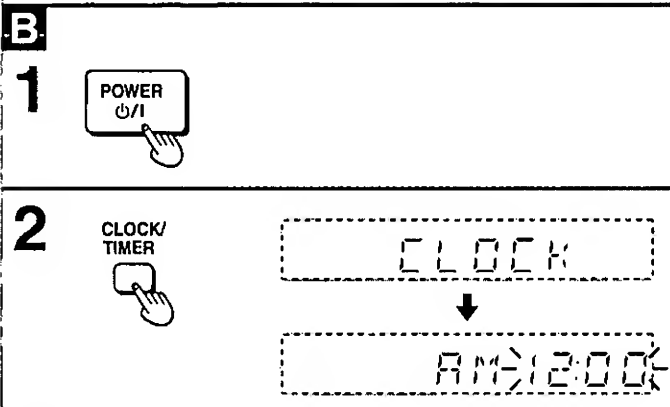
㉜ Sleep button (SLEEP) 45
㉝ Standby/on switch (⏻)
㉟ Numbered buttons (0–9, ≥10) 22, 29
㊱ Top menu button (TOP MENU) 14
㊲㊶ Cursor buttons (◄, ►, ▲, ▼) 13, 17, 31
㊳ Enter button (ENTER) 13, 20
㊴ GUI display button (GUI DISP) 25
㊵ Marker button (MARKER) 20
㊶ Super surround button (S.SRND) 36
㊷ Play mode select button (PLAY MODE) 22, 23
㊸ Sound EQ button (SOUND EQ) 31
㊹ Stop button (■) 15, 30
㊺ Shift button (SHIFT)
See below.
㊻ Disc slow/search button
(SLOW/SEARCH ◄◄, ►►) 15, 17
㊼ Display dimmer button (DIMMER) 46
㊽ Muting button (MUTING) 46
㊾ Disc button (DISC) 22
㊿ Menu button (MENU) 14
㉝ Return button (RETURN) 13, 14, 25
㉝ Subtitle/audio/angle buttons
(SUB TITLE) (AUDIO) (ANGLE) 18, 19
㊴ Repeat button (REPEAT) 21
㉟ Pause button (❚❚) 15
㉟ Disc skip, tape fast-forward/rewind/TPS,
tuning button (◄◄, ∨, ►►, ∧) 15, 28, 30

> To operate functions labeled in orange, press [SHIFT] (㊺) and the corresponding button at the same time.

㉜ Auto power-off button (AUTO OFF) 12
㉝ TV power on/off button (TV POWER) 48
㉞ TV/video input mode select button (TV/VIDEO) 48
㊱ Channel select button (CH SELECT) 35
㊴ Test signal button (TEST) 35
㊶ DOLBY PRO LOGIC button (▭▭PL) 34
㊷ Clear button (CLEAR) 20, 22
㊸ Super 3D AI EQ button (3D AI) 32
㊷ 2 channel down-mixing button (MIX 2CH) 34
㊽ Initial settings button (ACTION) 13
This button is labeled "SET UP" on the remote control for Australia, N.Z., China, the Middle East, South Africa and Asia.
㉝ TV channel select buttons (TV CH UP, TV CH DOWN) ... 48
㊴ A-B repeat button (A-B REPEAT) 21

The numbered buttons are also used for karaoke functions on the remote control for China, the Middle East, South Africa and Asia.

㉟ Microphone volume buttons (− MIC +) 39
㉟ Echo button (ECHO) 42
㉟ Karaoke on/off button (KARAOKE ON/OFF) 40
㉟ Karaoke GUI display button (KARAOKE DISPLAY) 40
㉟ Key control buttons (♭, ♯) 42
㉟ One touch karaoke button (ONE TOUCH) 41
㉟ Karaoke mode select button (KARAOKE MODE) 41

Control guide and preparatory steps

1

2·4

3

-DISPLAY/
– DEMO

A

-DISPLAY/
– DEMO

```
NO DEMO
```

B

1

POWER
⏻/I

2

CLOCK/
TIMER

```
CLOCK
```
↓
```
AM 12:00
```

3

∨   ∧

I◀◀/◀◀   ▶▶/▶▶I

```
PM 4:25
```

4

CLOCK/
TIMER

C

AUTO OFF

SELECTOR

SHIFT

SHIFT + AUTO OFF
SLEEP

```
AUTO OFF
```
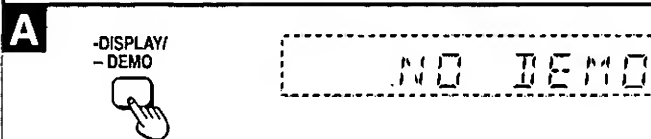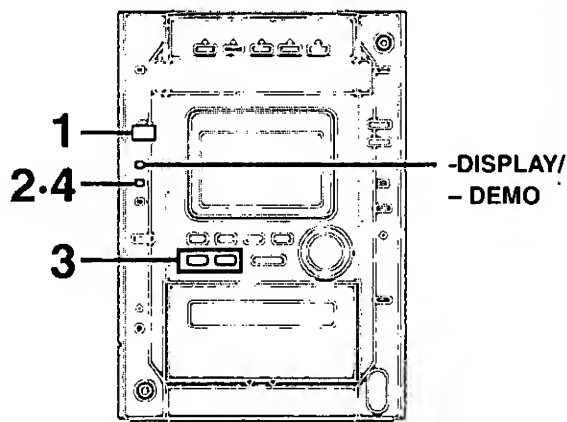
A Turning DEMO off

A demonstration of the display is shown if you have not set the clock. You can reduce the power consumed in standby mode by turning it off.

Press and hold [-DISPLAY/–DEMO] until "NO DEMO" is displayed.

Each time you press the button:
NO DEMO (off)⟷DEMO (on)

B Setting the time

For U.S.A. and Canada: 12-hour clock
For others: 24-hour clock
The example shows how to set the 12-hour clock for 4:25 p.m.

1 **Press [POWER ⏻/I] to turn the unit on.**

2 **Press [CLOCK/TIMER] to display "CLOCK".**
Each time you press the button:
CLOCK→⊘PLAY→⊘REC→Original display

3 **(Within 5 seconds or so)**
Press [I◀◀/◀◀, ∨] or [▶▶/▶▶I, ∧] to set the time.
The time display can be changed in one minute units by tapping the buttons, and quickly by holding down the buttons.

4 **Press [CLOCK/TIMER].**
The time is set and the original display is restored.

Displaying the clock
Press [CLOCK/TIMER] to display "CLOCK".
The clock is shown for about 5 seconds then the previous display is restored.

Reset the clock regularly to maintain accuracy.

C Auto power-off

Remote control only

When disc or tape is selected as the source
To save power, the unit turns off if it is left unused for 10 minutes.

This function does not work if the source is tuner or AUX or if a disc menu is being displayed.

1 **Press [SELECTOR] to select "DVD/CD" or "TAPE".**

2 **Press [SHIFT] + [AUTO OFF].**
"AUTO OFF" is displayed.

The setting is maintained even if the unit is turned off.
If you select tuner or AUX as the source, "AUTO OFF" goes out. It comes on again when you select disc or tape.

To cancel
Press [SHIFT] + [AUTO OFF] again.

1·5

2·3·4

RETURN

SELECTOR

1

ACTION
MUTING

SHIFT +

SET UP
MUTING

2

3·4

5

SHIFT +

ACTION
MUTING

SET UP
MUTING

<u>Remote control only</u>

Change the setting to suit the aspect ratio of your television.

The menu language is set to English, but you can change it to other languages (→ Display–Menu Language, pages 50–53).

Preparation
● Turn on the television and switch the video-input mode on the television to suit the connection.
● Press [SELECTOR] to select "DVD/CD".

1 Display the menus on the television.
For Australia, N.Z., China, the Middle East, South Africa and Asia
Press [SHIFT] + [SET UP].
For U.S.A., Canada and others
Press [SHIFT] + [ACTION].

2 Press [◄], [►] to select the video tab.

3 Press [▲], [▼] to select "TV Aspect" and press [ENTER].

4 Press [▲], [▼] to select the item and press [ENTER].
●4:3 Pan&Scan (Factory setting)
Select if you have a regular television and to view 16:9 software* in the pan and scan style.

●4:3 Letterbox
Select if you have a regular television and to view 16:9 software* in the letterbox style.

●16:9
Select you have a widescreen television.

* 16:9 software prohibited from being shown in the pan and scan style will appear in the letterbox style despite the setting here.

The video menu is shown.

5 Press [SHIFT] + [ACTION] (or [SET UP]).
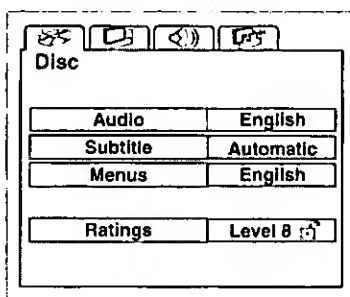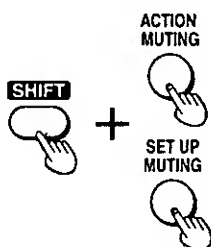

To return to the previous screen
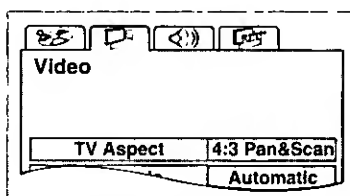Press [RETURN].

For your reference
DVDs are recorded in a variety of aspect ratios. You can change the way software is shown on a regular television (4:3) with the above operation. If you have a widescreen television (16:9), use the television's picture modes.
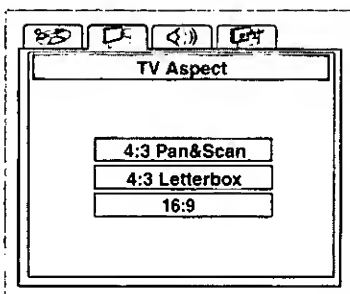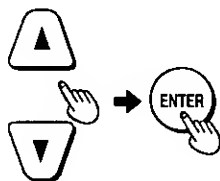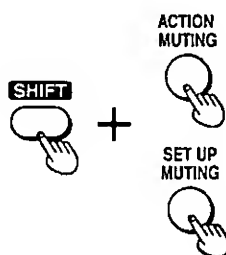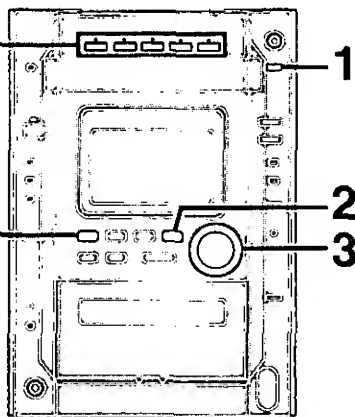
Control guide and preparatory steps
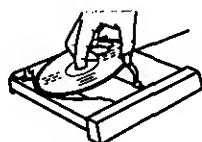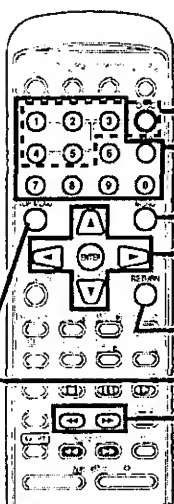
DISC 1–DISC 5

1

2
3
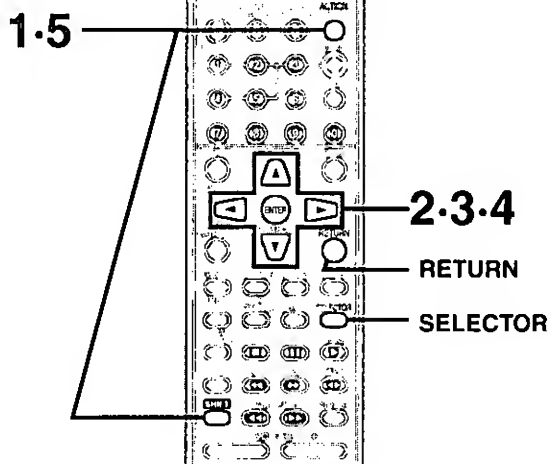
■,TUNE MODE

1

OPEN/CLOSE

Label must
face upward

DISC, 1–5
Numbered buttons

MENU
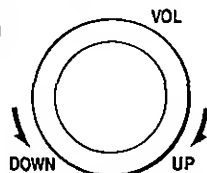
◄, ►, ▲, ▼,
ENTER

RETURN

TOP MENU

I◄◄, ►►I

Example

TITLE MENU

| Dogs | Castles |
| Lovers | Birds |

↓

TITLE MENU

| Dogs | Castles |
| Lovers | Birds |

↓

Birds

2 DVD/CD

3 VOL

$VOL~-48dB$

-- dB
MIN

0 dB
MAX

DOWN   UP

A

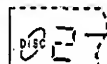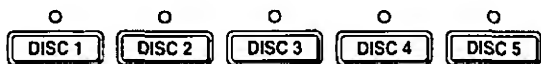| DISC 1 | DISC 2 | DISC 3 | DISC 4 | DISC 5 |
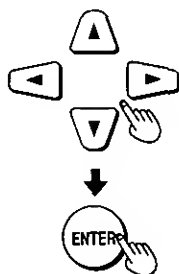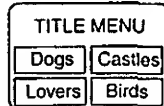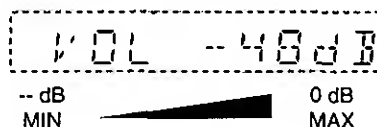
Disc
number

Discs

Normal play

DVD **VCD** **CD**

Preparation: Turn on the television and switch the video-input mode
on the television to suit the connection.

**1 Press [▲OPEN/CLOSE] to open the
tray.**
The unit comes on automatically.
Insert a disc and press [▲OPEN/CLOSE] to close the tray.

> **If a menu screen appears on the television**
>
> **Remote control only**
> Use the cursor buttons (◄,►,▲,▼) to highlight an item
> and press [ENTER].
> You can also select the desired item by pressing the num-
> bered buttons with some discs.
> To select title No.10 or over, press [≥10] then the two digits.
> e.g. Title No. 12: [≥10] →[1] →[2]
> Items can only be selected with the numbered buttons
> when playing Video CDs.
> See below for other menu operations.

2 If play does not start after step 1
Press [DVD/CD ►].

3 Adjust the volume.

Use the CD MANAGER's ALL-DISC mode to play CDs and Video
CDs in succession (➡ page 24).

To stop the disc
Press [■, TUNE MODE] (the resume function is activated, ➡ page 15).

● The disc continues to rotate while the menu is displayed even after
a particular item has finished. When no more items are to be select-
ed, be sure to press [■, TUNE MODE] to clear the menu display.

"⊘" is displayed on the TV
When the operation is prohibited by the unit or the disc.

Other buttons used to operate menus
Read the disc's instructions for further details about operation.
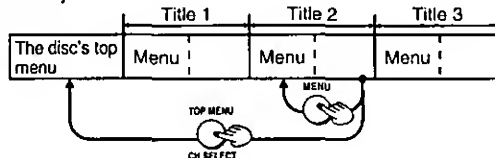[I◄◄]:   Shows the previous menu.
[►►I]:   Shows the next menu.
[RETURN]:   Shows the menu screen.
[TOP MENU]: Shows the first menu screen. **DVD**
[MENU]:   Shows the menu screen. **DVD**

DVDs can have several menus. The menu displayed when you press
[TOP MENU] may be different from the menu displayed when you
press [MENU].

	Title 1	Title 2	Title 3
The disc's top menu	Menu	Menu	Menu

TOP MENU
CH SELECT
MENU

> **How the changer works**

The tray closed when you press [▲OPEN/CLOSE] is in the
play position.
The disc in the play position is ready to play immediately when you
press [DVD/CD ►].
The indicator for the tray in the play position lights.

To listen to another disc or open another tray, press [DISC 1]–
[DISC 5] (remote control: [DISC] then [1]–[5]) to put the tray in the
play position. **A**
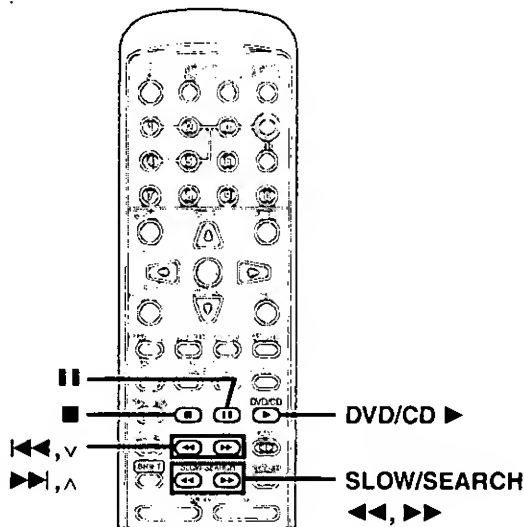
A To resume play (resume function)

When [■] (on the main unit: [■, TUNE MODE]) is pressed, the unit remembers the position.
While "RESUME" is displayed, press [DVD/CD ►] to start play from where you stopped it.

If you are playing DVD, the message "Press PLAY to Preview Chapters" (or "Press PLAY to Chapter Review") appears on the TV. Press [DVD/CD ►] while the message is displayed and the beginning portions of each chapter up to the current one are played. Full play resumes from the point where you stopped play.
(This feature works only within a title.)

If you do not press [DVD/CD ►], the message disappears and play starts from where you stopped it.

To cancel resume function
Press [■] ([■, TUNE MODE]).

Note
- The resume function does not work if the disc's play time is not displayed.
- The position is saved even if the unit is turned off.
- The position is cleared when the tray is opened or if you change discs.

B Pause (Still picture)

Press [❙❙] (on the main unit: [❙❙ , MEMORY]) during play.
Press [DVD/CD ►] to resume play.

C Skip

Chapters/titles on DVD and tracks on Video CD and CD can be skipped.

Remote control:
Press [I◄◄, ∨] or [►►I, ∧] during play.

On the main unit: [I◄◄/◄◄, ∨] or [►►/►►I, ∧]

I◄◄, ∨ (I◄◄/◄◄, ∨): Backward
►►I, ∧ (►►/►►I, ∧): Forward

Each press increases the number of skips.

D Search

Remote control:
Press [SLOW/SEARCH (◄◄ or ►►)] during play.
Each press increases the speed of the search up to 5 steps.

On the main unit: [I◄◄/◄◄, ∨] or [►►/►►I, ∧]
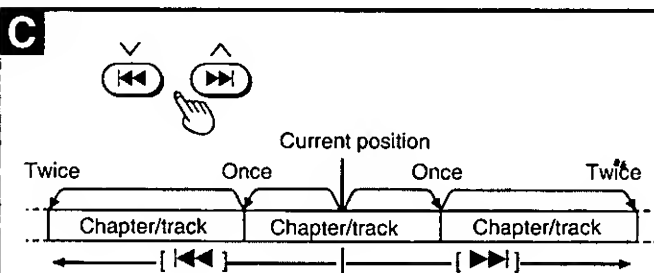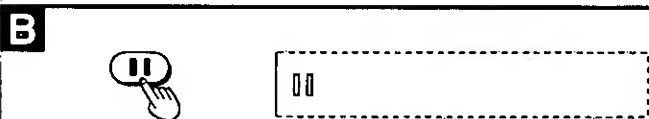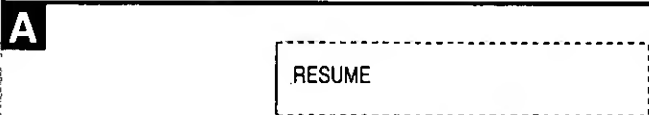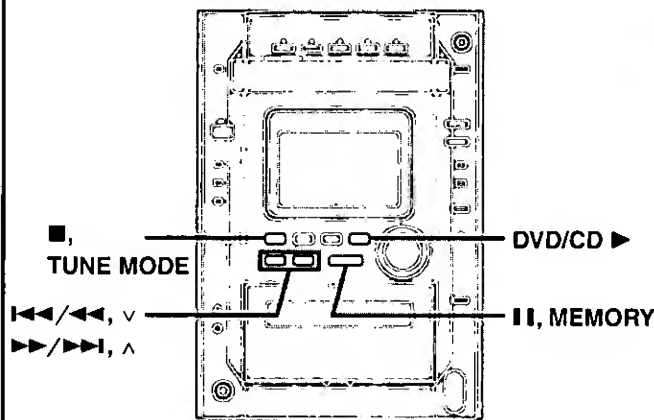   The speed increases if you press and hold the button.

◄◄ (I◄◄/◄◄, ∨): Backward
►► (►►/►►I, ∧): Forward

Press [DVD/CD ►] to resume play.

When playing Video CDs with playback control
Pressing buttons to perform skip or search may take you to a menu screen.

Left column (controls and diagrams)

❙❙
■
I◄◄, ∨
►►I, ∧ ———— DVD/CD ►

———— SLOW/SEARCH ◄◄, ►►

■,
TUNE MODE
I◄◄/◄◄, ∨
►►/►►I, ∧ ———— DVD/CD ►
———— ❙❙, MEMORY

A
RESUME

B
❙❙

C
∨   ∧
I◄◄ ►►I

Current position
Twice   Once   Once   Twice
Chapter/track | Chapter/track | Chapter/track
[I◄◄]   [►►I]

D
SLOW/SEARCH
◄◄ ►►

(a)

(b)

(c)

(d)

8cm disc	✓	✗
12cm disc	✓	✗
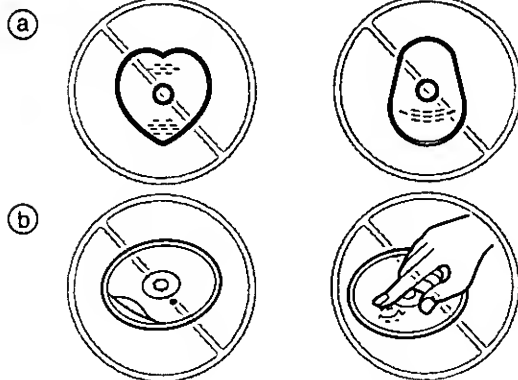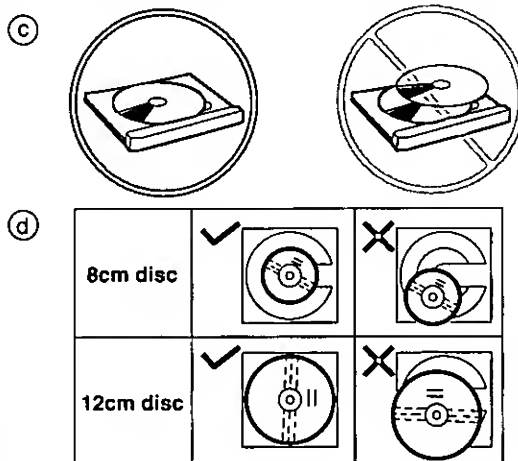
Discs

Information about discs that appears on the unit display

" ▷ "
When there are 16 or more tracks on the disc (CD and Video CD without PBC).

"DVD"
When a DVD is in the play position tray.

"VCD"
When a Video CD is in the play position tray.

"NO DISC"
When there is no disc on the selected tray or the disc is set incorrectly.

"NO PLAY"
When the disc does not correspond to the unit and cannot be played.

"96kHz 24bit"
When the disc is one with high quality sound recorded with a sampling frequency of 96 kHz and 24 bits.

A — Disc selection

Choose discs with these marks:

DVD VIDEO   **DVD** VIDEO   COMPACT disc DIGITAL VIDEO   COMPACT disc DIGITAL AUDIO

Do not;
● use irregularly shaped discs (ⓐ).
● attach extra labels and stickers.
● use discs with labels and stickers that are coming off or with adhesive exuding from under labels and stickers (ⓑ).
● attach scratch-proof covers or any other kind of accessory.
● write anything on the disc.
● clean discs with liquids. (Wipe with a soft, dry cloth.)
● use discs printed with label printers available on the market.

B — To prevent damage

Always observe the following points.
● Load only 1 disc per tray (ⓒ).
● Load discs as shown in figure ⓓ.
  An adaptor is not needed with 8 cm discs (singles).
● Set the system on a flat, level surface.
● Always unload all discs before moving the unit.

Do not;
● set the unit on top of magazines, inclined surfaces, etc.
● move the unit while a tray is opening/closing, or when loaded.
● put anything except discs in trays.
● use cleaning discs or discs which are badly warped or cracked.
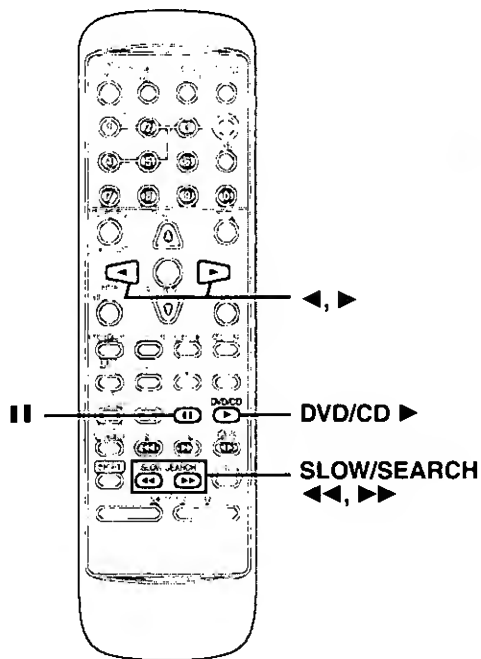
A **Frame-by-frame viewing**

DVD **VCD**

Remote control only

① **Press [II] during play.**

② **Press the cursor buttons [◄]** (backward) **or [►]** (forward).

The frame changes each time you press a cursor button.

• The frames change in succession if you press and hold a cursor button.
• The frame also advances each time you press [II].
• You cannot move backwards with Video CD.

Press [DVD/CD ►] to resume play.

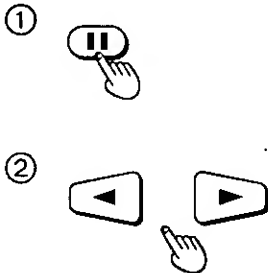**B** **Slow-motion play**

DVD **VCD**

Remote control only

① **Press [II] during play.**

② **Press [SLOW/SEARCH (◄◄ or ►►)].**
◄◄ : Backward
►► : Forward
Each press increases the speed of the slow motion. There are 5 speeds.
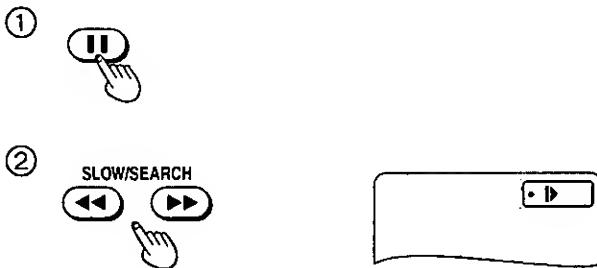

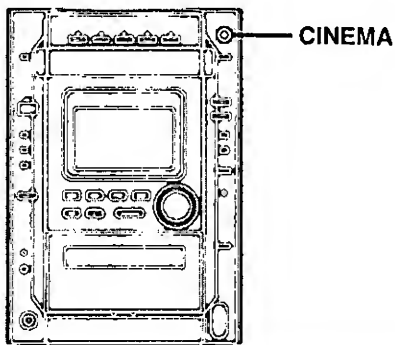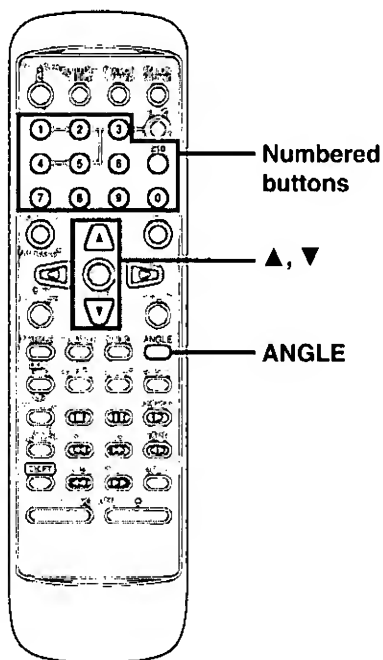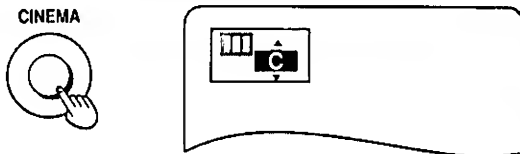• You cannot move backwards with Video CD.

To resume play
Press [DVD/CD ►] to resume play.

Disc operations

CINEMA

A Changing the picture quality for movie viewing

DVD **VCD**

You can better enjoy pictures by changing the picture quality.

Press [CINEMA].

The button lights and the CINEMA display appears on the screen.
Each time you press the button:
C (on)←→N (off)

B Switching angles

DVD

Remote control only

Some DVDs allow you to view the same scene from different angles.
"ANGLE" lights up on the unit's display during scenes recorded with multiple angles to indicate this feature is available.

Press [ANGLE] during play.

The angle display appears.
The angle number changes each time you press the button.
The number can also be changed with the cursor buttons (▲ or ▼) or the numbered buttons.

Some discs allow you to set angles before multi-angle scenes are played. Read the instructions that come with the disc.

Note
Some discs allow changes to angles only by using the disc's menus.

A

Numbered buttons

▲, ▼

ANGLE

B

ANGLE

Angle number

Disc operations

Numbered buttons

◄, ►, ▲, ▼

SUB TITLE

AUDIO

To change the soundtrack

AUDIO

Soundtrack number

DD Digital
2 ENG   3/2.1 ch

Hello

To change the subtitle language

SUB TITLE

Subtitle number

ON
1 ENG

Thank you

A

Vocal
1 *   ON

Discs

Changing soundtrack and subtitle languages

DVD

Remote control only

Some DVDs have multiple soundtracks and subtitle languages recorded on them. You can change these during play.

To change the soundtrack
Press [AUDIO] during play.
The soundtrack display appears.
The number changes each time you press the button.

To change the subtitle language
Press [SUB TITLE] during play.
The subtitle display appears.
The number changes each time you press the button.

The number can also be changed with the cursor buttons (▲ or ▼) or the numbered buttons.
See page 26 for a key to language abbreviations.

To clear/display the subtitles
① Press [SUB TITLE].
② Press [►].
③ Press [▲] or [▼] to select "ON" or "OFF".

For your reference
Soundtrack and subtitle languages can be set before play with the unit's menus (➡ pages 50–53).
(Some discs are designed to start in a certain language despite the setting.)
You can only select the languages recorded on the disc.

Note
● Some discs allow changes soundtrack and subtitle languages only by using the disc's menus.
● "–" or "––" is displayed instead of the language number in circumstances such as when no language is recorded on the disc.
● In some cases, the subtitle language is not changed to the selected one immediately.
● (For areas except Australia, N.Z., China, the Middle East, South Africa, and Asia)
If the subtitles overlap closed captions recorded on discs, turn the subtitles off.

A   Switching vocals on/off for karaoke discs

DVD
Remote control only

① Press [AUDIO] during play.
② Press the cursor buttons [◄], [►] to highlight the illustrated icon.
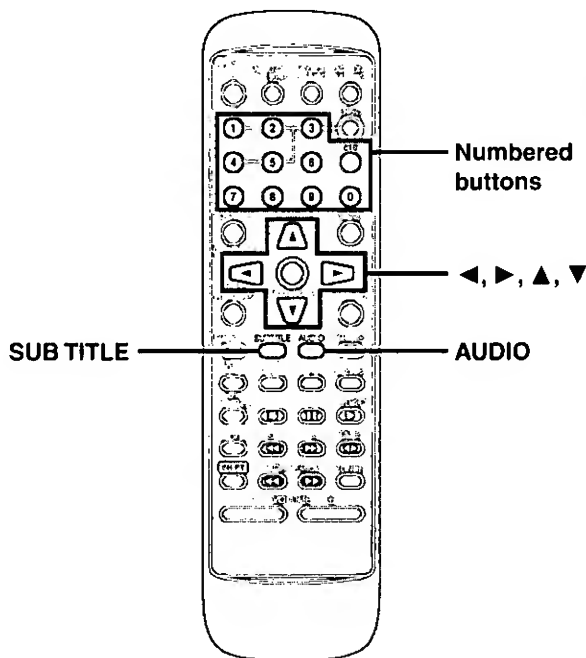③ Press the cursor buttons [▲], [▼] to turn the vocals on or off.

● Solo   ● Duet
OFF: No vocal   OFF: No vocal
ON: Vocal   V1+V2: Vocal 1 and 2
                              V1:   Vocal 1
                              V2:   Vocal 2

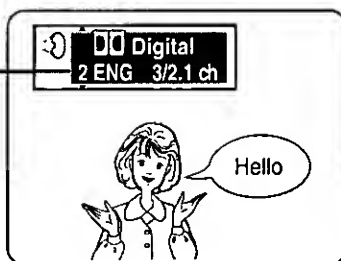Choose "OFF" for karaoke.
Choose "V1" or "V2" to duet with the player.

Actual operations depend on the disc. Read the disc's instructions for details.

CLEAR

SHIFT

2·③

②

1·1

A

1 MARKER

No marker

2 ENTER

Marker 1

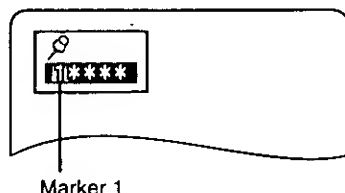**B**

1 MARKER

2 ◄ ►
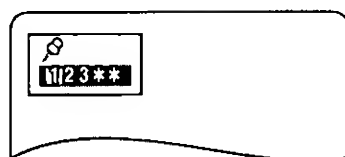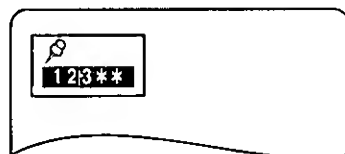
③ ENTER
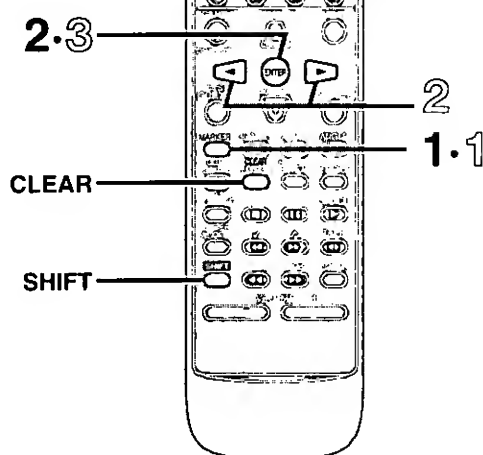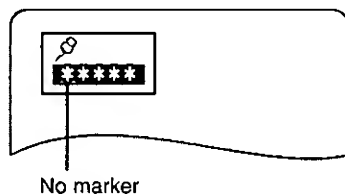
Discs

Marking a position

DVD **VCD** **CD**

Remote control only

This feature allows you to mark up to 5 points on a disc so you can return to them easily at a later time.

A To mark a position

1 Press [MARKER] during play.
The marker display appears.

2 Press [ENTER] at the point you want to mark.

To mark another position
① Press [MARKER] to display the marker display.
② Press the cursor buttons [◄] or [►] to select another "∗".
③ Press [ENTER].

B Recalling a marked position

1 Press [MARKER].
The marker display appears.

2 Press the cursor buttons [◄] or [►] to highlight the required marker.

3 Press [ENTER] to recall the position.

To clear a marker
① Press [MARKER] to display the marker display.
② Press the cursor buttons [◄] or [►] to highlight the marker you want to clear.
③ Press [SHIFT] + [CLEAR].

Note
•This feature cannot be used;
  •If the play time for the disc is not displayed.
  •During program (→ page 22) and random play (→ page 23).
  •While CD MANAGER (→ page 24) is on.
•Some subtitles may fail to appear around the marker (DVD).
•Markers clear in the following situations:
  •The unit is turned off.
  •The disc is changed or removed.
  •A source other than DVD/CD is selected.

Other methods of disc play

Repeat function

DVD **VCD** **CD**

Remote control only

A   Repeating chapters, titles and tracks

Press [REPEAT] during play.

Each time you press the button:

DVD
ⓐ CHAPTER REPEAT (↻): Current chapter is repeated. ←———┐
         ↓
ⓑ TITLE REPEAT (↻): Current title is repeated.
         ↓
ⓒ REPEAT OFF: Repeat mode is canceled. ————————┘

Video CD, CD
↻ : All tracks on the disc are repeated. ←————————┐
↓
Original display: Repeat mode is canceled. ——————————┘

To cancel repeat play
Press [REPEAT] to clear " ↻ ".

• When playing Video CDs and CDs, you can combine random play (➡ page 23) or the CD MANAGER (➡ page 24) and repeat play.

Note
Repeat play does not work if the play time for the disc is not displayed.

To repeat only your favorite tracks
Video CD and CD only
① Program the tracks you want (➡ page 22).
② Press [DVD/CD ▶].
③ Press [REPEAT] to display " ↻ ".

B   Repeating a specific section (A-B REPEAT)

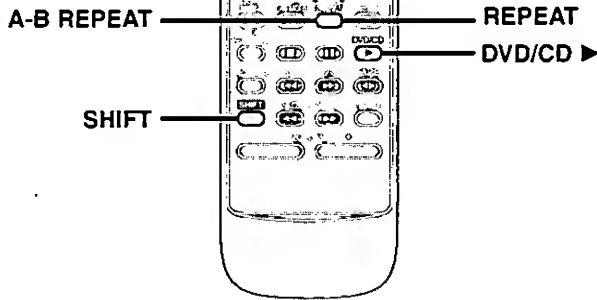## 1   Press [SHIFT] + [A-B REPEAT] during play at the starting point (A).

2   Press [SHIFT] + [A-B REPEAT] at the finishing point (B).
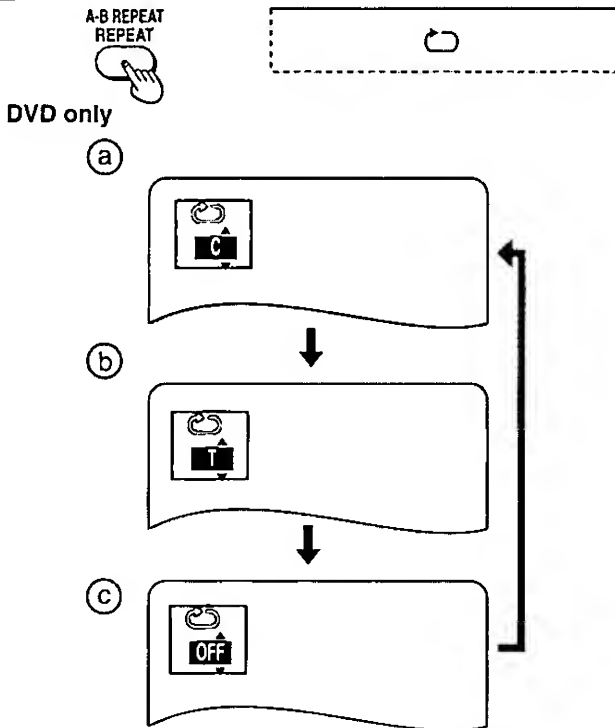

To cancel A-B repeat play
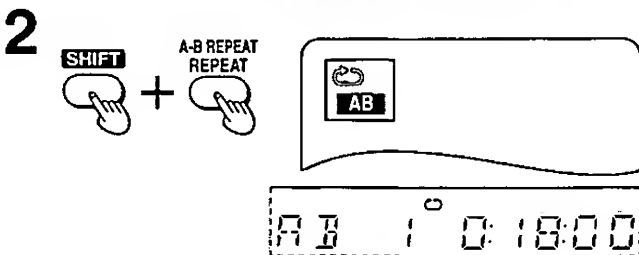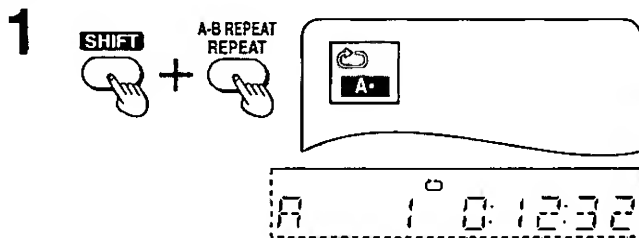Press [SHIFT] + [A-B REPEAT] to display "• •" on the screen.

Note
• This feature cannot be used if the play time for the DVD is not displayed.
• The player automatically determines the end of a title or track as point B.
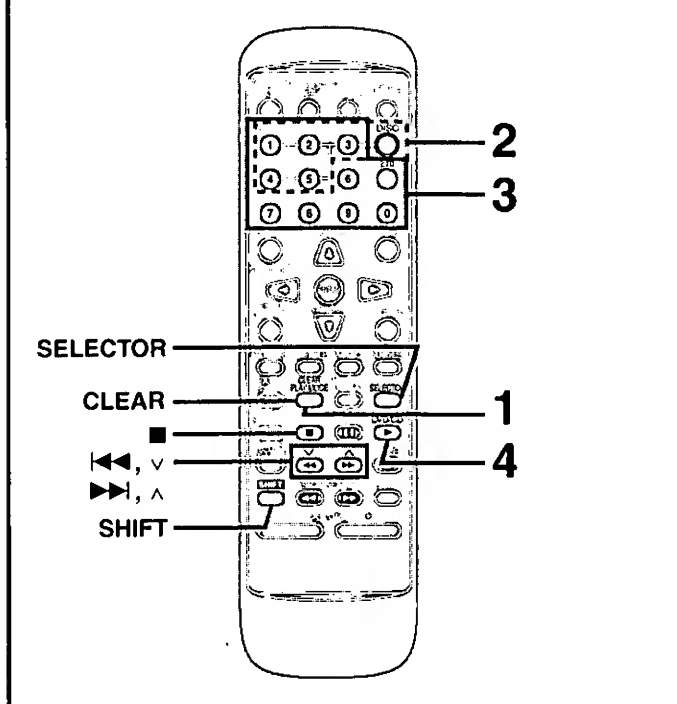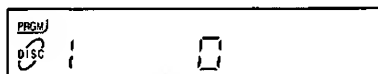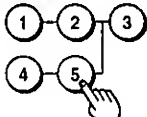• Subtitles may not appear around A and B.

Disc operations

Program play

VCD **CD**

Remote control only

You can select up to 24 tracks to play in the order you choose.
Preparation:
• Press [SELECTOR] to select "DVD/CD".
• Ensure a Video CD or CD is in the play position tray.
(Program play is not possible if the play position tray contains a DVD or is empty.)

1 While stopped
Press [PLAY MODE] to select "PRGM".
Each time you press the button:
PRGM→RANDOM 1 DISC→RANDOM ALL DISC
‎ └──────── Original display◄──────┘

2 ### Press [DISC] and (within 10 seconds) [1]–[5] to select the disc.

3 ### Select the track with the numbered buttons.
To select tracks numbered 10 and over
Press [≥10] then the two digits.
e.g. To select track 21: [≥10]→[2]→[1]

Repeat steps 2 and 3 to program all tracks you want in the required order.
Step 2 is not necessary when selecting a track from the disc currently displayed.

4 ### Press [DVD/CD ►].
All the tracks are played in the selected order.

To exit program mode
Press [PLAY MODE] to clear "PRGM".
Program contents will be saved in the memory.

You can do the following while the disc is stopped
Press [■] to cancel the resume function if it is on.
• **To check program contents**
While "P" is displayed (**A**), press [I◄◄, v] or [►►I, ∧].
Each time you press a button, the disc number, track number and program order are displayed.
• **To add to the program**
Repeat steps 2 and 3.
• **To cancel tracks**

From the last programmed track	Press [SHIFT] + [CLEAR].
A particular track	While "P" is displayed (**A**) Select the track with [I◄◄, v] or [►►I, ∧] then press [SHIFT] + [CLEAR].
All tracks	Press [■]. "CLEAR" is displayed.

When "CD FULL" is displayed
24 tracks have been programmed. No further tracks can be programmed.

Note
• Discs and tracks the unit cannot find can be programmed but are canceled during play. This is also the case if you program a DVD.
• You can program individual tracks even if the disc is a Video CD with PBC (➡ page 58).
• Skipping is done in the programmed order.

SELECTOR

CLEAR

■

I◄◄, v

►►I, ∧

SHIFT

1
CLEAR
PLAY MODE

2
DISC

TV / VIDEO
① ② ③
④ ⑤

Disc number

3
Programmed track number

TV / VIDEO
① ② ③
④ ⑤ ⑥ ≥10
⑦ ⑧ ⑨ ⓪

Programmed order

4
DVD/CD

A
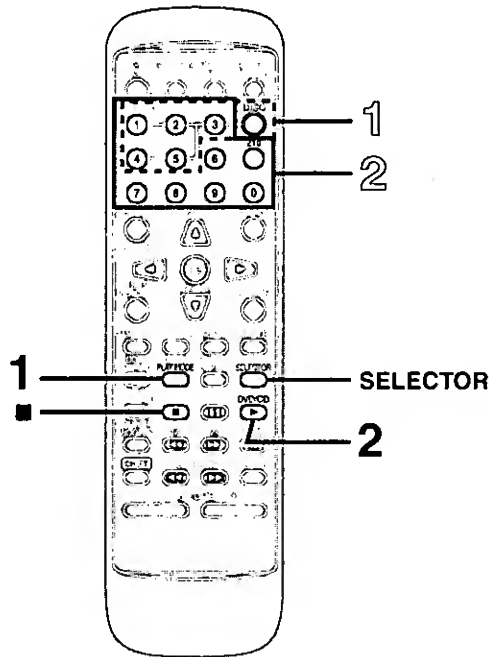
A Random play

VCD CD

Remote control only

Plays all tracks on the selected disc or on all discs once each in random order.

Select one of two ways to play tracks.

1-DISC: Plays all the tracks on the current disc in random order.

ALL-DISC: Plays all the tracks on all loaded discs in random order.

Preparation:
- Press [SELECTOR] to select "DVD/CD".
- Ensure a Video CD or CD is in the play position tray.

(Random play is not possible if the play position tray contains a DVD or is empty.)

1 While stopped
Press [PLAY MODE] to select "RANDOM 1 DISC" or "RANDOM ALL DISC".

Each time you press the button:

PRGM→**RANDOM 1 DISC**→**RANDOM ALL DISC**

└──────Original display←────────┘

2 Press [DVD/CD ▶].
Random play starts.

Random play is canceled when play stops.

To stop

Press [■].

Random play is also canceled. (The resume function is activated and if [DVD/CD ▶] is pressed, normal play resumes from that point.)

Note
- This function skips DVD when ALL-DISC mode is selected.
- If the disc is a Video CD with PBC, menu play is automatically canceled during random play.
- You cannot skip to tracks already played.

B Starting play from a specific track

VCD CD

Remote control only

1 Press [DISC] and (within 10 seconds) [1]–[5] to select the disc.

2 After the first track starts playing
Select the track with the numbered buttons.

To select track 10 or over, press [≥10] then the two digits.

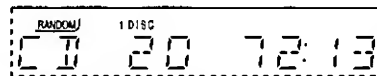Play starts from the selected track.

- When playing Video CDs with PBC, press [■] to stop the disc, then select the track number. PBC is canceled.

This does not work with some Video CDs with PBC.

Selected track number
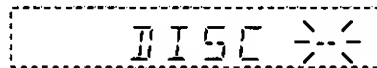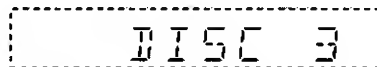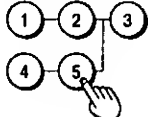
1 ——— DISC 1–
DISC 5

SELECTOR ———

■,
TUNE MODE

2 ——— **3**

Disc operations
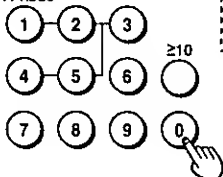
Using the CD MANAGER

VCD CD

Use this function to select specific discs and tracks to play.
There are 3 modes.
1-track mode: Plays one selected track on the current disc.
1-disc mode: Plays the current disc.
All disc mode: Plays all loaded discs in succession from the
current disc to the final disc✻.
These modes make recording CDs easier (➡ page 38).

Preparation:
●Press [SELECTOR] to select "DVD/CD".
●Ensure a Video CD or CD is in the play position tray.
(You cannot use CD MANAGER if the play position tray contains a
DVD or is empty.)

1

CD
MANAGER

`1-TRACK`

CD MANAGER

1 While stopped
Press [CD MANAGER] to select the desired mode.
Each time you press the button:
1-TRACK→1-DISC→ALL-DISC→NORMAL

1-TRACK: 1-track mode
1-DISC: 1-disc mode
ALL-DISC: All-disc mode
NORMAL: The function is canceled.

You can choose the disc after step 1.
Press [DISC 1]–[DISC 5] on the main unit to select the disc.
Remote control: Press [DISC] then (within 10 seconds) [1]–[5].

2

|◄◄/◄◄   ►►/►►|

Disc number   Track number

DISC ²   ³

CD MANAGER

2 Only when you selected "1-TRACK" in step 1
Press [|◄◄/◄◄, ∨] or [►►/►►|, ∧] to select the track.
Remote control: Select with the numbered button(s).
To select track 10 or over, press [≥10] then the two digits.
e.g. To select track 21: [≥10]→[2]→[1]

3

DVD/CD
►

3 ## Press [DVD/CD ►] to start play.
The CD MANAGER is canceled after play finishes.

A

REPEAT

To stop
Press [■, TUNE MODE].
The CD MANAGER is canceled.
(The resume function is activated and if [DVD/CD ►] is pressed, nor-
mal play resumes from that point.)

✻Final disc
For example, if play starts from disc 4, disc 3 will be the "final disc".
Order of progression: Disc 4→5→1→2→3

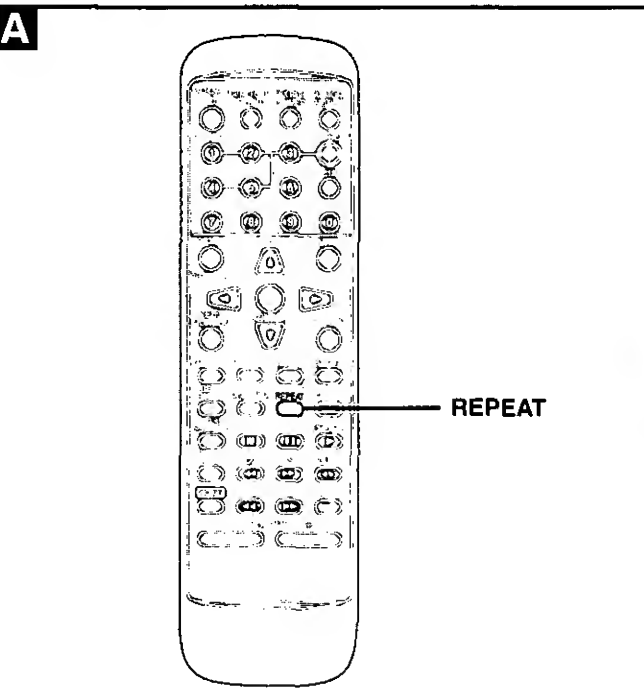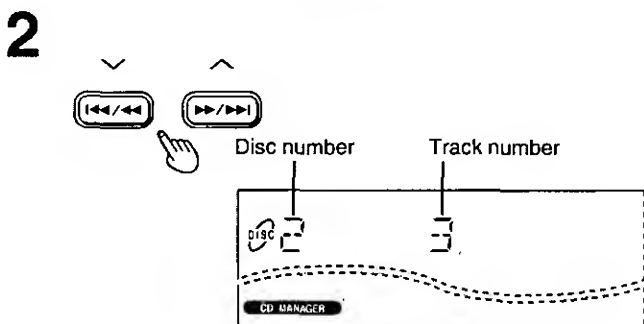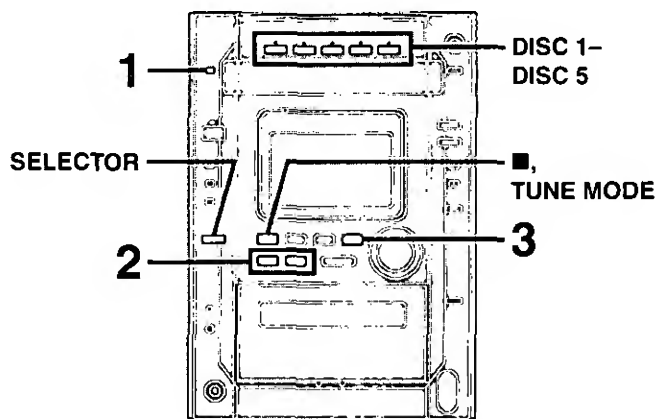**A You can use the CD MANAGER with repeat play.**
① Do steps 1–3 above.
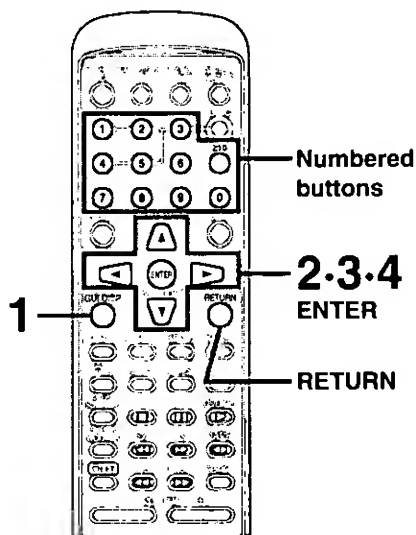② Press [REPEAT] on the remote control to display " ↻ ".

Note
●If the disc is a Video CD with PBC, the PBC function is automatical-
ly canceled when you select modes other than NORMAL.
●This function skips DVD.
●The CD MANAGER, program play (➡ page 22) and random play
(➡ page 23) cannot be used together.

Using GUI screens

DVD

Remote control only

GUI (Graphic User Interface) are icons that contain information about the disc or unit. These icons allow you to perform operations by changing this information.

1 Press [GUI DISP].
Each time you press the button:
```
┌→ Disc GUI (ⓐ)
│       ↓
│   Unit GUI (ⓑ)
│       ↓
│   Shuttle GUI(ⓒ)
│       ↓
└── Original display (ⓓ)
```
Actual GUI depend on the disc contents.
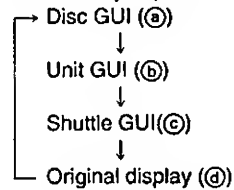
2 [Unit GUI] only
While the leftmost icon is highlighted
Press [▲], [▼] to select the menu.
Each time you press the button:
```
┌→ Play menu (ⓔ)
│       ↕
│   Display menu (ⓕ)
│       ↕
│   Audio menu (ⓖ)
│       ↕
└→ Video menu (ⓗ)
```
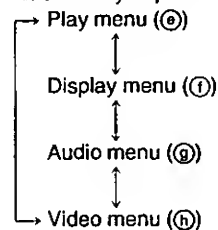
3 Press [◄], [►] to select the item.

4 Press [▲], [▼] to select the setting.
Items with "▲" or "▼" above and below can be changed by [▲], [▼]. Other items use different buttons. See pages 26 and 27 for details.

For your reference
- Some functions cannot be accessed from the stop mode (e.g. changing the soundtrack language).
- Press [ENTER] if the setting does not change after pressing [▲], [▼].
- When numbers are displayed (e.g. title No.), the numbered buttons are also effective for setting. When numbers are entered with the numbered buttons, press [ENTER] to register the setting.

To clear the GUI
Press [RETURN] until the GUI are cleared.

To change the position of the icons
You can lower the position of the icons on the screen if they are cut off for some reason.
1. Press [◄], [►] to select the rightmost icon.
2. Press [▲], [▼] to move the icon.

Numbered buttons

2·3·4
ENTER

1

RETURN

1

TEST
GUI DISP

2
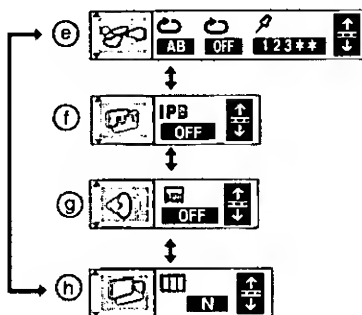
3

4

GUI icon descriptions

Disc GUI

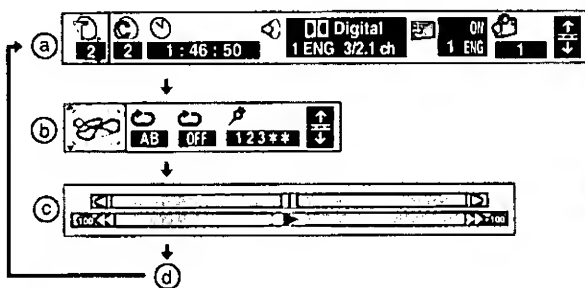| Icon	Content
	Title number
	Chapter number
	Time (select a position to start play by specifying a time with the numbered buttons.)
	Soundtrack language (See **A** at right for language abbreviations.)
	Audio signal type (See **B** at right for details.)
	(Karaoke DVD only) **Karaoke vocal on/off** Solo: OFF or ON Duet: OFF, V1 + V2, V1 or V2
	Subtitle language (See **A** at right for language abbreviations.)
	Subtitles on/off ON←→OFF
	Angle number

A Audio/Subtitle language

ENG: English	SVE: Swedish	CHI: Chinese
FRA: French	NOR: Norwegian	KOR: Korean
DEU: German	DAN: Danish	MAL: Malay
ITA: Italian	POR: Portuguese	VIE: Vietnamese
ESP: Spanish	RUS: Russian	THA: Thai
NLD: Dutch	JPN: Japanese	*: Others

B Signal type/data

LPCM/DD Digital: Signal type
k (kHz): Sampling frequency
b (bit): Number of bits
ch (channel): Number of channels

Example:
3/2.1ch

.1:	Subwoofer signal (not displayed if there is no subwoofer signal)
0:	No surround
1:	Mono surround
2:	Stereo surround (left/right)
1:	Center
2:	Front left + Front right
3:	Front left + Front right + Center

Disc operations

Play menu

Icon	Content
![A-B repeat icon]	**A-B repeat** (➡ page 21) [ENTER] (start point)→[ENTER] (finish point) To cancel [ENTER]
![Repeat play icon]	**Repeat play** (➡ page 21) C (Chapter)↔T (Title)↔OFF
![Marker icon]	**Marker** (➡ page 20) **[ENTER] so the unit is ready to accept marks.** To mark a position [ENTER] (at the desired point) To mark another position [◀], [▶]→[ENTER] _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ To recall a marker [◀], [▶]→[ENTER] _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ To erase a marker [◀], [▶]→[SHIFT] + [CLEAR]

Video menu

Icon	Content
![Cinema mode icon]	**Cinema mode** (➡ page 18) C: Cinema mode N: Normal mode

Audio menu

Icon	Content
![Dialogue Enhancer icon]	(Dolby Digital, 3-channel or over only) **Dialogue Enhancer** Makes the dialogue in movies easier to hear. ON↔OFF (Actual result depends on discs)

Display menu

Icon	Content
![IPB display icon]	**IPB display** (➡ page 58) Displays the picture type (I/P/B) in the still picture mode. ON↔OFF

Icon	Content
![Pause icon]	Pause
![Slow-motion icons]	**Slow-motion play** ◀I: Backward I▶: Forward
![Play icon]	Play
![Search icons]	**Search** ◀◀: Backward ▶▶: Forward

There are five speeds for both backward and forward slow-motion and search.

Disc operations

1

TUNER
(BAND)

`FM 87.9 MHz`

2

TUNE MODE
(■)

`MANUAL`

3

∨ ∧
(I◄◄/◄◄) (►►/►►I)

`FM 88.1 MHz`
`TUNED STEREO`

4

VOL

DOWN   UP

`VOL --48dB`

-- dB   0 dB
MIN   MAX

A

REV MODE/
FM MODE/BP

`MONO`

REV MODE/
FM MODE/BP

The radio: manual tuning

Radio stations can be tuned manually by selecting the station's frequency or they can be preset into channels to make it easy to tune (→ page 29).

1 Press [TUNER, BAND] to select "FM" or "AM".

The unit comes on automatically.
Each time you press the button:
FM←→AM

2 Press [■, TUNE MODE] to select "MANUAL".

Each time you press the button:
MANUAL←→PRESET

3 Press [I◄◄/◄◄, ∨] or [►►/►►I, ∧] to select the frequency of the required station.

If you press and hold [I◄◄/◄◄, ∨] or [►►/►►I, ∧] for a moment, the frequency starts changing automatically and stops when a station is found. It may also stop if there is outside interference.
Press and hold [I◄◄/◄◄, ∨] or [►►/►►I, ∧] again to restart. You can also stop the frequency changing by pressing [I◄◄/◄◄, ∨] or [►►/►►I, ∧].

"TUNED" is displayed when a radio station is tuned.
"STEREO" is displayed when a stereo FM broadcast is being received.

4 Adjust the volume.

A   If noise is excessive in FM

Press [REV MODE/FM MODE/BP] to display "MONO".

This mode improves sound quality if reception is weak but broadcasts are heard in monaural.
Press [REV MODE/FM MODE/BP] again to cancel the mode.
The mode is also canceled when you changed the frequency.

Leave "MONO" off for normal listening.
Stereo and monaural broadcasts are automatically played as they are received.

Allocation settings
(For areas except Australia and N.Z.)

Each country allocates broadcast bands according to their particular system.
For Latin America, China, the Middle East, South Africa, and Asia:
This unit can receive AM broadcasts allocated in 10- or 9-kHz steps.
For U.S.A., Canada, and others:
This unit can receive FM broadcasts allocated in 0.1- or 0.2-MHz steps.

To change the step
① Press and hold [TUNER, BAND].
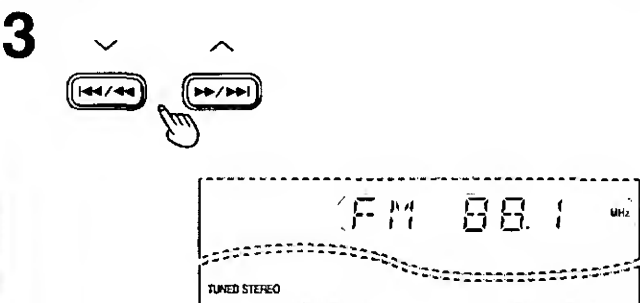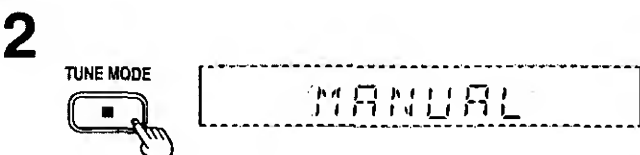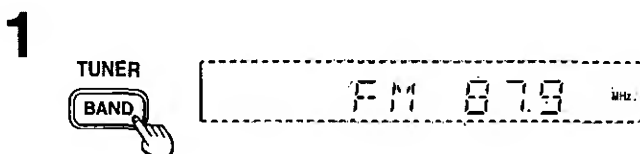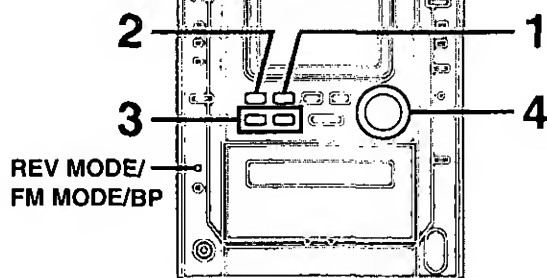After a few seconds the display changes to a flashing display of the current minimum frequency.
② Continue to hold [TUNER, BAND] down.
When the minimum frequency changes, release the button.
To return to the original step, repeat the above steps.
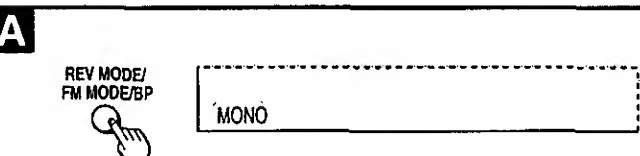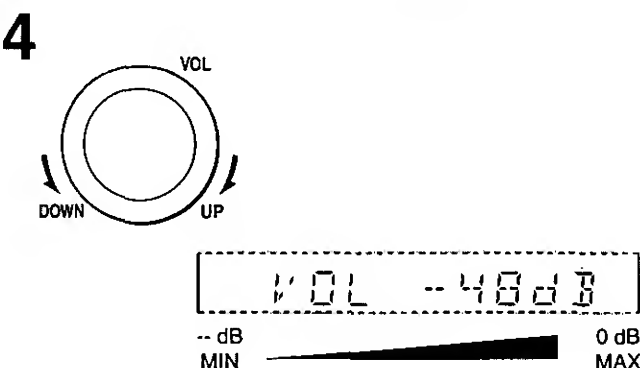
The radio: preset tuning

There are two methods of presetting stations.

Automatic presetting: The stations the tuner can receive are preset.

Manual presetting: You can select the stations to preset and the order they are preset in.

Up to 12 stations can each be set in the FM and AM bands.

A Automatic presetting

Do the following once each for FM and AM.

Preparation:
Tune to the frequency where presetting is to begin (⇒ page 28).

Press and hold [II, MEMORY].

Release the button when the frequency starts changing.

The tuner presets the stations it can receive into the channels in ascending order. When finished, the last station memorized is tuned in.

Manual presetting

Preset the stations one at a time.

1. Press [TUNER, BAND] to select "FM" or "AM".
2. Press [II, MEMORY] then press [I◄◄/◄◄, ∨] or [►►/►►I, ∧] to tune to the required station.
3. Press [II, MEMORY] then press [I◄◄/◄◄, ∨] or [►►/►►I, ∧] to select a preset channel.
4. Press [II, MEMORY].

The station occupying a channel is erased if another station is preset in that channel.

B Selecting channels

Remote control:

1 Press [TUNER] to select "FM" or "AM".
The unit comes on automatically.
Each time you press the button:
FM⟷AM

2 Press [I◄◄, ∨] or [►►I, ∧] to select the channel.
You can select the channel with the numbered button(s).
To select channel 10 or over
Press [≥10] then the two digits.

3 Adjust the volume.

Main unit:
① Press [TUNER, BAND] to select "FM" or "AM".
② Press [■, TUNE MODE] to select "PRESET".
Each time you press the button:
MANUAL⟷PRESET
③ Press [I◄◄/◄◄, ∨] or [►►/►►I, ∧] to select the channel.
④ Adjust the volume.

Numbered buttons

A

MEMORY
II

⇀FM 88.1 MHz

↓

FM 89.9 MHz

B

1

TUNER

FM 87.9 MHz

2

∨ ∧
(I◄◄) (►►I)

FM 87.9 MHz

Preset channel

3

− VOLUME +

■,
TUNE MODE

REV MODE/
FM MODE/BP

|◀◀/◀◀, v
▶▶/▶▶|, ∧

TAPE ◀ ▶

■

|◀◀, v
▶▶|, ∧

– VOLUME +

1
OPEN

Forward side

2
TAPE
◀ ▶

$TAPE\ \ \square\_\square$

Tape direction

3
VOL

$VOL\ \ -48dB$

DOWN   UP

-- dB   0 dB
MIN   MAX

A
REV MODE/
FM MODE/BP

◯▷   ◻

B
∨   ∧
(|◀◀/◀◀) (▶▶/▶▶|)

Cassette tapes

1 Press [▲ OPEN] and insert the cassette.
The unit comes on automatically.
Close the holder by hand.

2 Press [TAPE ◀ ▶] to start play.
Each time you press the button: ▶ ←→ ◀
▶: Forward side is played.
◀: Reverse side is played.

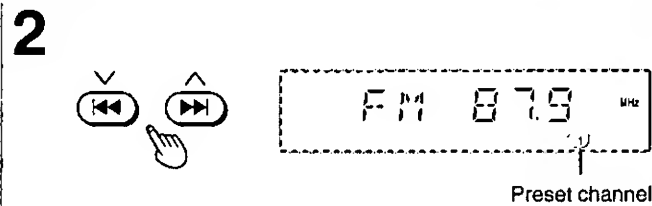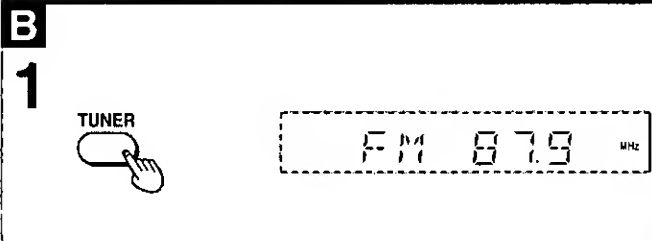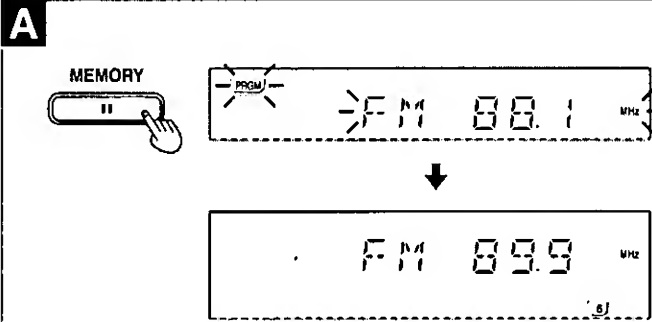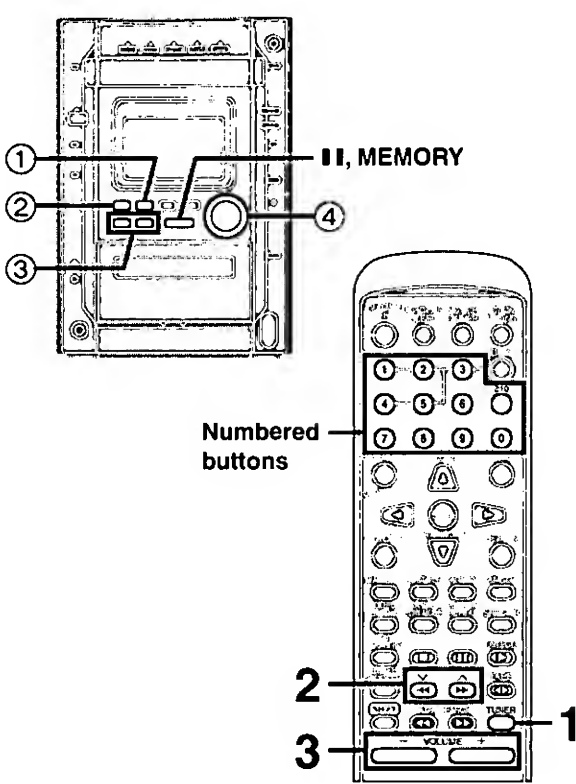## 3 Adjust the volume.

To stop the tape
Press [■, TUNE MODE] (remote control: [■]).

A To select the reverse mode
While TAPE is selected as the source
Press [REV MODE/FM MODE/BP].
Each time you press the button: ⇄ → ⇄ ⊃ → (⇄ ⊃)

⇄: One side is played.
⇄⊃: Both sides are played. (forward→reverse)
     Play stops at the end of the reverse side.
(⇄⊃): Both sides are played repeatedly until [■, TUNE MODE] (■) is
     pressed.

B | Finding a place on a tape

To fast-forward and rewind
Press [|◀◀/◀◀, v] or [▶▶/▶▶|, ∧] while the tape is stopped.
Remote control: [|◀◀, v] or [▶▶|, ∧]
To resume play, press [TAPE ◀ ▶].

To find the beginning of a track (TPS: Tape program sensor)
Press [|◀◀/◀◀, v] or [▶▶/▶▶|, ∧] during play.
Remote control: [|◀◀, v] or [▶▶|, ∧]

Each press increases the number of tracks skipped, up to a maxi-
mum of 9.
The first skip backward takes you to the beginning of the current track.

Tape direction	backward	forward
▷	|◀◀/◀◀, v (|◀◀, v)	▶▶/▶▶|, ∧ (▶▶|, ∧)
◁	▶▶/▶▶|, ∧ (▶▶|, ∧)	|◀◀/◀◀, v (|◀◀, v)

Note
TPS may not operate correctly in the following situations:
● If the interval between tracks is less than 4 seconds.
● If there is noise between tracks.
● If there are silent segments within tracks.

Cassette tape selection and care

The unit can correctly play the following types. It identifies the type
automatically.

Normal position/TYPE I	✔
High position/TYPE II	✔
Metal position/TYPE IV	✔

●Tapes exceeding 100 minutes are thin and can break or get caught
in the mechanism.
●Tape slack can get caught up in the mechanism and should be
wound up before the tape is played.
●Endless tapes can get caught up in the deck's moving parts if used
incorrectly. Use tapes appropriate to this unit's auto-reverse mech-
anism.
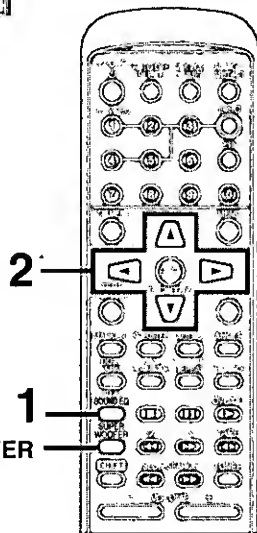
A Adjusting the bass

Press [SUPER WOOFER].
The button lights when the feature is on.

• **When listening through speakers**
Each time you press the button:
MID (medium)→MAX (high)→OFF (off)
⤴_____|

• **When listening through headphones**
Each time you press the button:
Light on (on)⟷Light off (off)

To cancel
Press [SUPER WOOFER] to turn the light off.

B Changing sound field and quality

Press [SOUND EQ] to select a setting.
Each time you press the button:

HEAVY:	Adds punch to rock.
CLEAR:	Clarifies higher sounds.
SOFT:	For background music.
DISCO:	Reverberates sound to make you feel like you were in a disco.
LIVE:	Makes vocals more alive.
HALL:	Expands sound to make you feel like you were in a hall.
MANUAL (M.EQ):	Create your own effects (➡ below).
AI EQ:	Adjust sound with the acoustic image equalizer (➡ page 32).
FLAT:	Canceled (no effect is added).

Remote control: Press [SOUND EQ].

Note
SOUND EQ and SUPER SOUND EQ (➡ page 32) cannot be used at the same time.

C Using the manual equalizer (MANUAL)

Create your own sound quality effects.

Remote control:

1 Press [SOUND EQ] to select "MANUAL".

2 (Within 10 seconds)
Change the sound quality with the cursor buttons.
① Select the sound range to be adjusted with [◀] or [▶].
② Adjust the level with [▲] or [▼].

Repeat step 2 to set the desired sound quality.
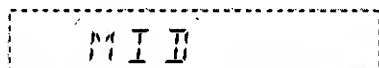The original display is restored on the display panel in about 10 seconds.

To cancel
Press [SOUND EQ] to select "FLAT".

The changes you make are stored and automatically recalled the next time you select "MANUAL".
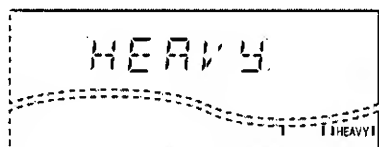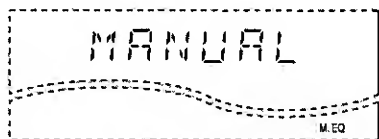
SOUND EQ

SUPER WOOFER

2
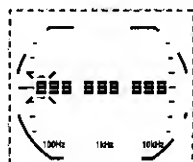
1

SUPER WOOFER

A SUPER WOOFER — MID

B SOUND EQ — HEAVY

C 3D AI SOUND EQ — MANUAL

2
①
②
LOW⟵——MID——⟶HIGH

SUPER 3D AI

SOUND EQ

2

1

SOUND EQ

A

1


```
3D AI 1
                        3D AI EQ
```

2

HEAVY

SOFT ← → SHARP

LIGHT

B

SUPER SOUND EQ

SUPER SOUND EQ

Changing sound field and quality

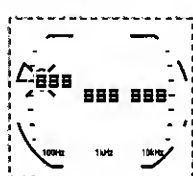### Using the acoustic image equalizer (AI EQ)

Achieve subtle sound quality settings with the soft, sharp, heavy, and light coordinates, and add surround effects with the three-dimensional settings.

Turning AI EQ on

Main unit: **Press [SUPER 3D AI].**

Remote control: **Press [SHIFT] + [3D AI].**

The current AI EQ mode is displayed.
Press again to select another 3D level.
Each time you press the button:
AI EQ→3D AI 1→3D AI 2
⌐←―――――――――――⌐

3D AI 1: Adds a surround effect to the AI EQ.
3D AI 2: Adds a stronger surround effect to the AI EQ.

A   Adjusting the sound quality

Remote control only

1   Turn on AI EQ and select the level.

2   (Within 10 seconds)
Change the sound quality with the cursor buttons.
Adjust softness and sharpness with [◄] or [►].
Adjust heaviness and lightness with [▲] or [▼].

The original display is restored on the display panel in about 10 seconds.

The level and changes you make are stored and recalled the next time you turn the AI EQ on as described above, or select it with [SOUND EQ] (➡ page 31).

To cancel
Press [SOUND EQ] to select "FLAT".

Note
- "3D AI 1" and "3D AI 2" cannot be selected when you are playing a DVD (except for MIX 2CH mode, ➡ page 34) or listening to the radio.
- "3D AI 1" and "3D AI 2" cannot be selected while a surround system (➡ page 33).

B   Using the super sound equalizer

Turning on the super sound equalizer gives you a more powerful sound.

Press [SUPER SOUND EQ].
The indicator lights.

To cancel
Press [SUPER SOUND EQ] so the indicator turns off.
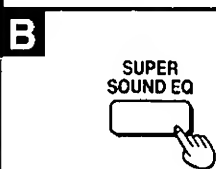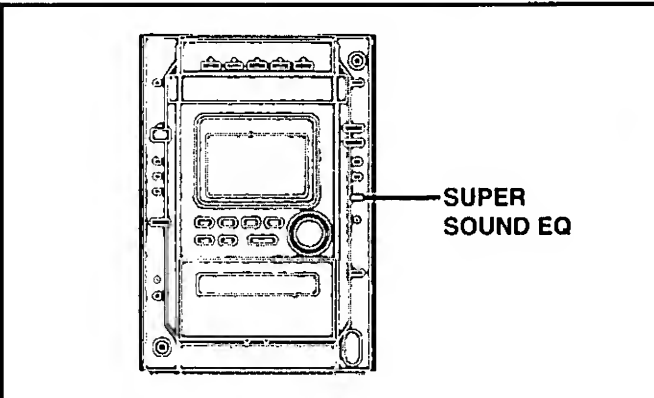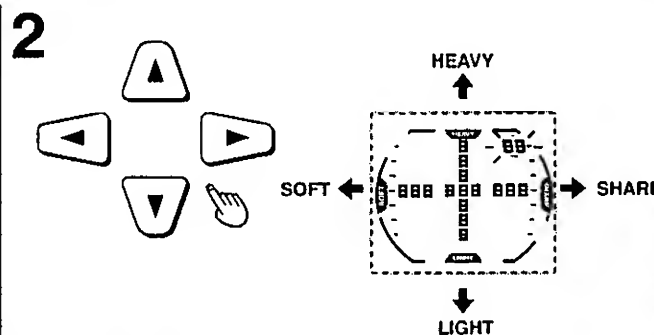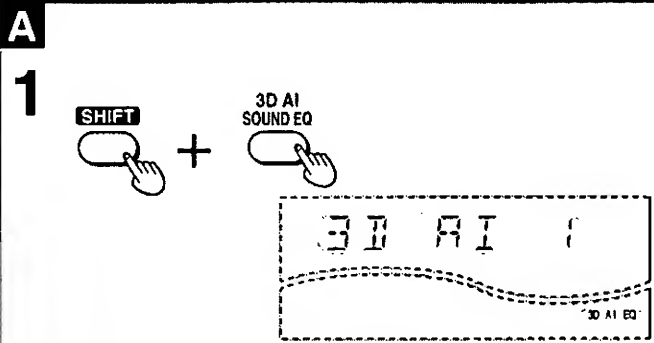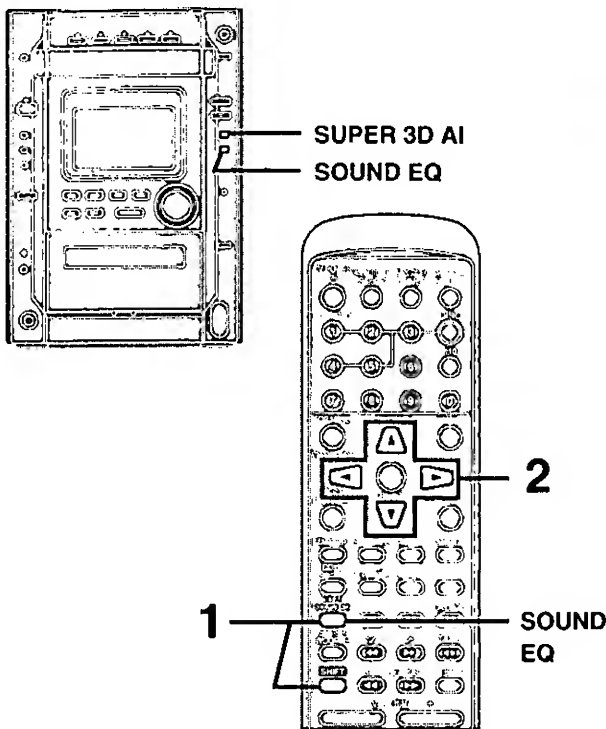
Enjoying surround sound

The following chart gives a summary of this unit's surround features.

Note
●All the features are only effective if speakers are used. No discernible effect will be heard through headphones.
●None of the features are effective when radio is selected as the source.
●You may experience a reduction in sound quality when these surround systems are used with some sources. If this occurs, turn the surround system off.

Surround system	Features	Software
DOLBY DIGITAL (☞ page 34)	●Dolby Digital is a discrete 5.1 (6) channel surround system developed for cinema use. The sound signals in Dolby Digital format are compressed to 1/10 their original size, allowing an entire movie to be recorded on a single DVD. ●This unit automatically recognizes DVDs that have been recorded with Dolby Digital. ●Not all Dolby Digital sources are recorded with 5.1 (6) channels. Some sources marked Dolby Digital may be recorded in Dolby Surround, a 2 channel system.	Software encoded with Dolby Digital can be identified with this mark. ▢▢ **DOLBY** **D I G I T A L** ●DVD
DOLBY PRO LOGIC (☞ page 34)	Dolby Pro Logic is a decoding system that was developed to get a better sense of presence from sources encoded with Dolby Surround. The feeling of position has been improved by the addition of a separate center speaker channel.	Software encoded with Dolby Surround can be identified with this mark. ▢▢ **DOLBY SURROUND** ●DVD ●Video CD, CD ●Laser Disc ●Video tape
SUPER SURROUND (☞ page 36) **MOVIE**	●This mode adds surround effects to movie software that hasn't been recorded with the above systems. ●You can adjust the volume of the surround speakers to get the best surround effect.	Any stereo sound source except for the radio.
SUPER SURROUND (☞ page 36) **MUSIC**	●This mode adds surround effects to stereo sources. ●You can adjust the volume of the surround speakers to get the best surround effect.	

Sound quality/sound field operations

See page 35 for speaker level adjustment.

A DOLBY DIGITAL

Play a DOLBY DIGITAL source.
"□□DIGITAL" is displayed.

Subwoofer
You can enhance the surround sound by connecting another subwoofer (⇒ page 47 for connection).
If you connect the subwoofer:
Press and hold [SUPER WOOFER] on the main unit until "SUB W ON" is displayed.
If you disconnect the subwoofer:
Press and hold [SUPER WOOFER] on the main unit until "SUB W OFF" is displayed.

B To down-mix Dolby Digital (5.1 ch) signals to 2 channels
Remote control only
Press [SHIFT] + [MIX 2CH].
To cancel, press [SHIFT] + [MIX 2CH] again.

C DOLBY PRO LOGIC

1 Press [□□PL].
The button lights.

Remote control: Press [SHIFT] + [□□PL].

2 Playback a Dolby Surround source.

To cancel
Press [□□PL] ([SHIFT] + [□□PL]).
The light turns off.

Note
Turn Dolby Pro Logic off when playing a DVD recorded with 5.1 channel Dolby Digital. The surround effects will not be reproduced correctly if this is left on.

SUPER WOOFER
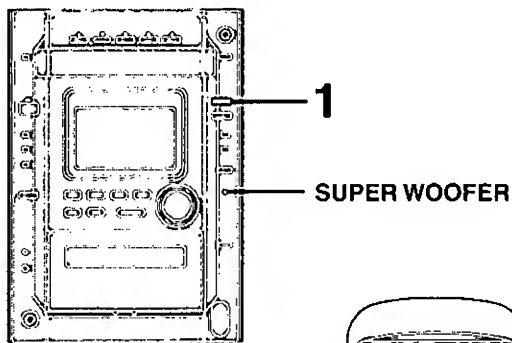
MIX 2CH

□□PL

SHIFT

A

    DOLBY DIGITAL

B

SHIFT + MIX 2CH DIMMER

    MIX 2ch

C

1 □□PL

    DOLBY
    ↓
    PRO LOGIC

Sound quality/sound field operations

Speaker level adjustments

If the level of the speakers appears to be different while listening to a source, adjust the level of the speakers to the same apparent level.

Remote control only

Preparation
DOLBY DIGITAL: Turn off the other surround systems.
DOLBY PRO LOGIC: Press [SHIFT] + [DꝹPL] to turn the light on.

① Press [SHIFT] + [TEST] to output a test signal.
  Lch: Front left
  Cch: Center
  Rch: Front right
  RSch: Right surround
  LSch: Left surround
  ●The surround channel for Dolby Pro Logic is monaural so the indicator appears as "Sch" instead.

② Press [▲] (to increase) or [▼] (to decrease).

To stop the test signal, press [SHIFT] + [TEST] again.

To select a specific speaker
1. Press [SHIFT] + [CH SELECT] to select the speaker.
   Lch→Cch→Rch→RSch→LSch→SWch
   ↑_____

   ●SWch: Subwoofer (Dolby Digital, only when connected)
   ●The surround channel for Dolby Pro Logic is monaural so the indicator appears as "Sch" instead.
2. Press [▲] (to increase) or [▼] (to decrease).

CH SELECT

TEST

DꝹPL

SHIFT

▲, ▼

① SHIFT + TEST GUI DISP

TEST   Cch

② ▲ ▼   Cch   -2dB

Sound quality/sound field operations
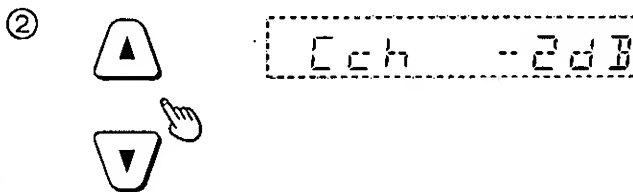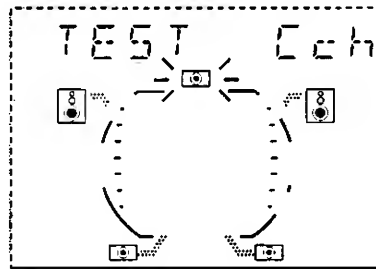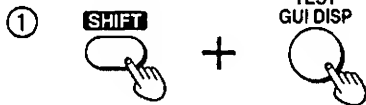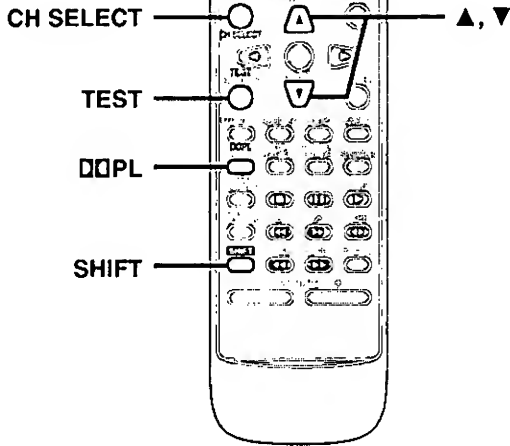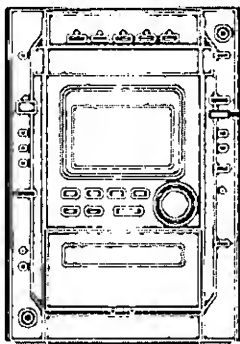
S.SRND

CH SELECT

▲, ▼

S.SRND

SHIFT
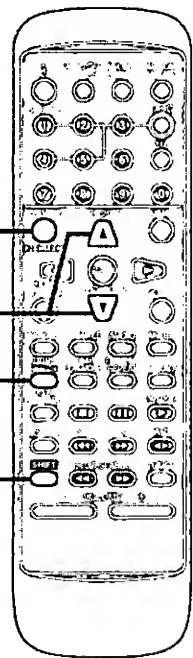
A SUPER SURROUND

Press [S.SRND] to select "MOVIE" or "MUSIC".

The button lights.

Each time you press the button:
MUSIC→MOVIE→STEREO SOUND (off)

To cancel
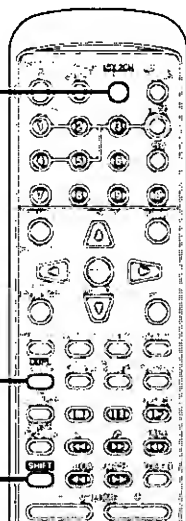Press [S.SRND] so the indicator turns off.

Note
Turn super surround off when playing a DVD recorded with 5.1-channel Dolby Digital. The surround effects will not be reproduced correctly if this is left on.
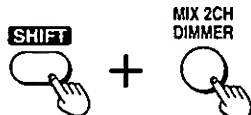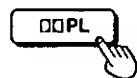
B Surround speaker level adjustments

Remote control only

While playing a source
① Press [SHIFT] + [CH SELECT].
② Press the cursor buttons [▲] (to increase) or [▼] (to decrease).

A

S.SRND

```
MUSIC
```

B

① SHIFT + TOP MENU / CH SELECT

```
5ch      0dB
```

② ▲ ▼

```
5ch     -2dB
```

Before recording

A

Side A

Tab for side B   Tab for side A

To re-record

Normal tape   High position tape

Discrimination hole

B

① ② ③

C

■,
TUNE MODE   TAPE ◀ ▶

2   1

1

OPEN   Forward side

TAPE
◀ ▶
↓
TAPE
◀ ▶
↓
TUNE MODE
■

: ▷ [oo]

◁ : [oo]

Selected direction

2

REV MODE/
FM MODE/BP

:)▷ [oo]

Selection of tapes for recording

The unit automatically identifies the type of tape.

Normal position/TYPE I	✔
High position/ TYPE II	✔
Metal position/ TYPE IV	✕

Metal position tapes can be used, but the unit will not be able to record or erase them correctly.

Volume, sound quality and surround effects

- Recording level is set automatically.
- Multi-channel sources (3 to 5.1 channels) are automatically down-mixed to 2 channels during recording.
  Turn on dynamic range compression if sound is distorted (➡ Audio–D.Range Compression, pages 50–53).
- All sound effects are automatically set to flat.

A   Erasure prevention

The illustration shows how to remove the tabs to prevent recording. To record on the tape again, cover as shown, being careful not to cover the high position discrimination hole.

B   Erasing recordings

Preparation:
(For China, the Middle East, South Africa and Asia)
Disconnect the microphones.

① Press [SELECTOR] to select "TAPE".
② Press [REV MODE/FM MODE/BP] to select the reverse mode.
③ Press [● REC/STOP].

C   Preparatory steps

Do these steps before each recording.
Wind up the leader tape so recording can begin immediately.
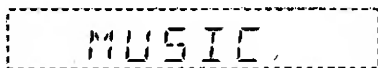
1   Press [▲OPEN] and insert the cassette to be recorded on.

The tape direction is automatically set to "▷".

> **To record on the reverse side**
> Press [TAPE ◀ ▶] twice, then press [■, TUNE MODE].

2   Select "TAPE" with [SELECTOR], then Press [REV MODE/FM MODE/BP] to select the reverse mode.

Each time you press the button:

⇄→⇄⊃→(⇄⊃
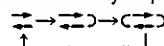
⇄:   One side only records.
⇄⊃ and (⇄⊃: Both sides record (forward→reverse).
                  Recording stops at the end of the reverse side.

"(⇄⊃" automatically changes to "⇄⊃" when [●REC/STOP] is pressed.

Recording operations

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RQT5824

SELECTOR
■, TUNE MODE

DISC 1–
DISC 5

2

2, 2

2

① ●REC/STOP

② DVD/CD

2 ●REC/STOP

A

CD MANAGER
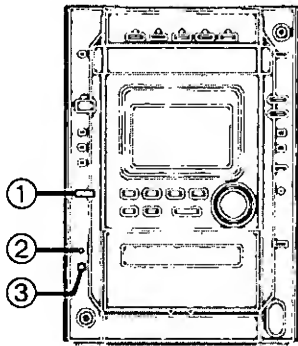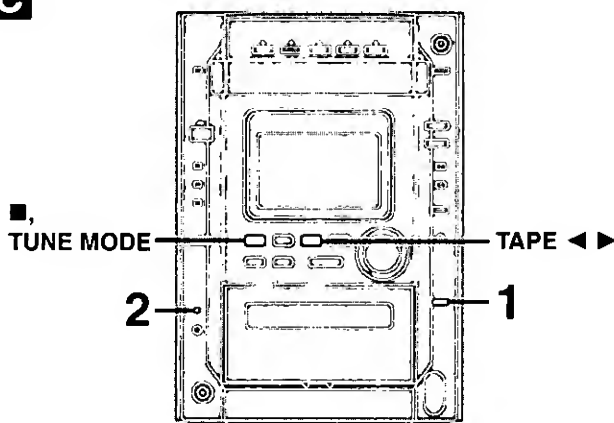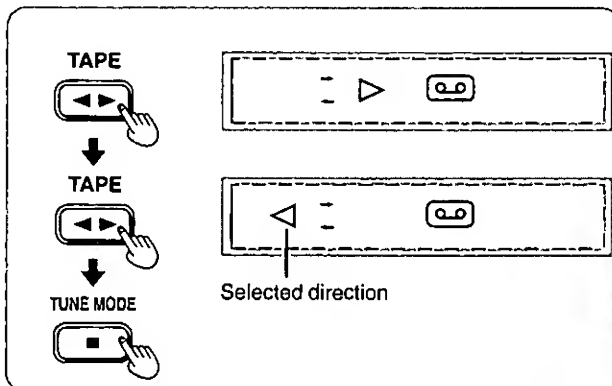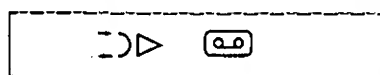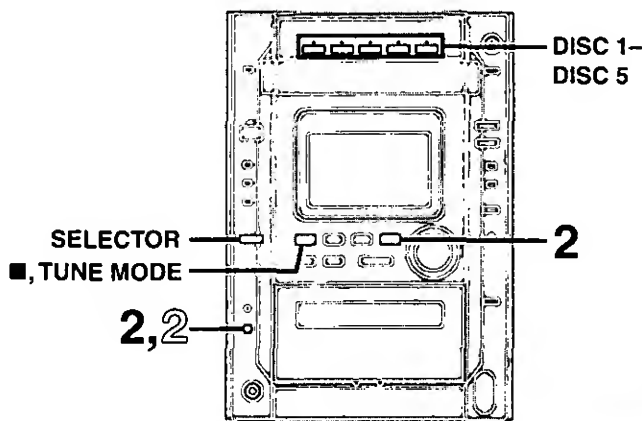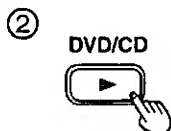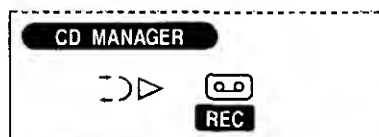
Recording discs

Preparation:
● Do the preparatory steps (→ page 37).
● Press [SELECTOR] to select "DVD/CD".

Normal recording

1, 1 Insert the disc you want to record.
If play starts, press [■, TUNE MODE] twice to stop the disc.

If the disc is not in the play position (→ page 14), press [DISC 1]–[DISC 5] to select the disc, then press [■, TUNE MODE] twice.

DVD **VCD**

2 ① **Press [●REC/STOP].**
② **Press [DVD/CD ►] to start play.**

CD

2 Press [●REC/STOP] to start recording.
The CD starts.

● With DVDs and Video CDs, play will not start when you press [●REC/STOP]. Press [DVD/CD ►] to start play.

To stop recording
EITHER: Press [●REC/STOP].
The DVD/Video CD keeps playing.
The CD stops automatically.
OR: Press [■, TUNE MODE].
The CD stops, and the tape stops after making a 4 second silent interval.

To record programmed tracks
Video CD and CD only
① Program the tracks (→ page 22, steps 1–3).
② Press [●REC/STOP] to start recording.
Play starts.
To stop recording, press [●REC/STOP].
Disc play stops automatically.

A **Recording with CD MANAGER (→ page 24)**

VCD **CD**

Record discs after selecting the required CD MANAGER mode (1-TRACK, 1-DISC, ALL-DISC).
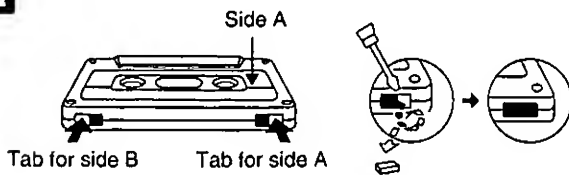● If a track is cut off in the middle at the end of the front side while recording, the track will be recorded from the beginning on the reverse side.
● At the end of the reverse side, recording stops and the current track will be interrupted.
● Recording pauses while discs are changing and resumes when the disc is ready.

① Insert the disc you want to record.
If play starts, press [■, TUNE MODE] twice to stop the disc.
② Do steps 1 and 2 on page 24.
③ Press [●REC/STOP] to start recording.
Play starts.

To stop recording
Press [●REC/STOP].
Disc play stops automatically.

A Recording the radio

Preparation: Do the preparatory steps (→ page 37).

1 Tune to the required station.
(→ page 28 or 29)

2 Press [●REC/STOP] to start recording.

To stop recording
Press [●REC/STOP].

B To reduce noise while recording an AM broadcast (Beat proof function)
Press [REV MODE/FM MODE/BP] while recording.
Each time you press the button:
BP 1 ←→ BP 2
Select the position where there is less noise.

C Enjoying karaoke
(For China, the Middle East, South Africa and Asia)

You can enjoy karaoke only while playing discs.
(You cannot use karaoke mode if you have selected a source other than DVD/CD.)

DVD
There are different kinds of karaoke DVD.

- There are DVD where the different parts for karaoke are recorded separately, as shown in the example (→ page 40 for operation).
  Example
  Channel 1: Stereo accompaniment (left)
  Channel 2: Stereo accompaniment (right)
  Channel 3: Guide melody
  Channel 4: Vocal 1
  Channel 5: Vocal 2

- There are discs that have audio for karaoke and audio with vocals recorded separately.
  Press [AUDIO] to switch between the two when playing this type of disc (→ page 19).

- There are also discs where you can enjoy karaoke by pressing [ONE TOUCH] (→ page 41).

Video CDs and CDs
Follow the steps described on page 41.

Preparation:
- Press [POWER ⏻/l] to turn the unit on.
- Turn on the television and switch the video-input mode on the television to suit the connection.
- Lower the microphone volume with [SHIFT] + [− MIC +], then connect the microphone to the microphone jacks. Use a dynamic microphone.
  Plug type: 3.5 mm (1/8") stereo
  Audio is automatically switched to stereo (2ch).
  You cannot do karaoke with surround effects or 3D AI EQ.

Note
- If a strange noise (squealing or howling) is emitted during use, move the microphone away from the speakers, or turn down the microphone volume.
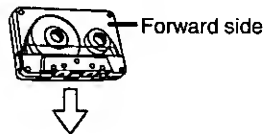- When you are not using the microphone, disconnect it from the microphone jacks, and turn down the microphone volume level to 0.
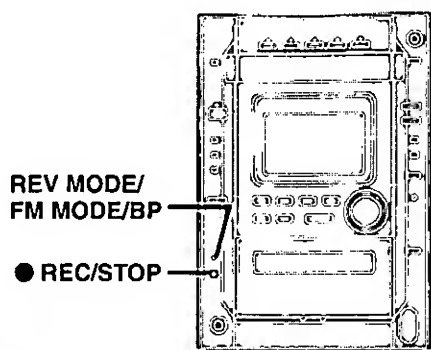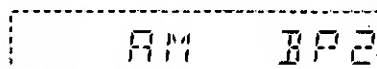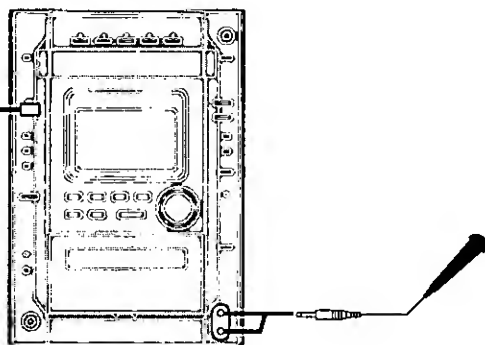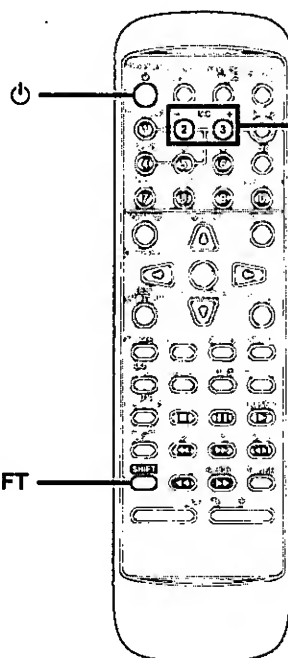
REV MODE/
FM MODE/BP

● REC/STOP

A
●REC/STOP
TUNED

B
REV MODE/
FM MODE/BP
AM   BP2

C
POWER
⏻/l

⏻

− MIC +

SHIFT

Recording operations

KARAOKE ON/OFF

KARAOKE DISPLAY

KARAOKE MODE

◄, ►, ▲, ▼

RETURN

SHIFT

2

Enjoying karaoke

(For China, the Middle East, South Africa and Asia)

A Before karaoke

Press [SHIFT] + [KARAOKE ON/OFF] to display "KARAOKE ON".

Each time you press the button:
KARAOKE ON (on) ←→ KARAOKE OFF (off)
The illustrated microphone indicator lights while the karaoke mode is on.

B Enjoying karaoke with karaoke DVD

DVD

Remote control only

1 **Insert the disc and start play** (→ page 14).

2 **Start singing and adjust volume with [− VOLUME +] and [SHIFT] + [− MIC +].**
You can adjust the microphone volume level between 0 and 9.

C Changing the volume of the guide melody

DVD with the guide melody recorded only

You can sing along with the aid of a guide melody which plays the tune of the song.

① During play
Press [SHIFT] + [KARAOKE DISPLAY].
The karaoke GUI is displayed on the TV.

② **Press the cursor buttons [◄], [►] to select the guide melody icon.**

③ **Press the cursor buttons [▲], [▼] to select the setting.**

To clear the karaoke GUI
Press [SHIFT] + [KARAOKE DISPLAY].
OR
Press [RETURN].

D Turning the vocals on and off

You can listen to vocals recorded on the disc.

During play
Press [SHIFT] + [KARAOKE MODE].
The karaoke GUI is displayed on the TV.
Each time you press the button:

• Solo	• Duet
OFF: Vocal off	OFF: Vocal off
ON: Vocal on	1+2: Vocal 1 and 2 on
	V1: Vocal 1 on
	V2: Vocal 2 on

To clear the karaoke GUI
Press [SHIFT] + [KARAOKE DISPLAY].
OR
Press [RETURN].
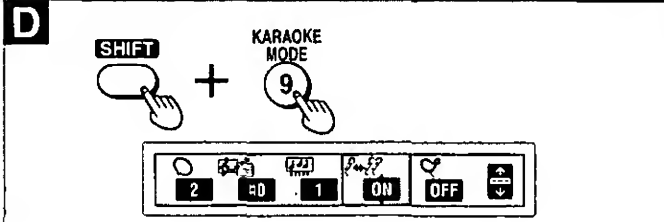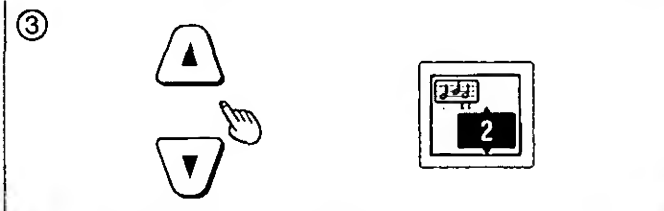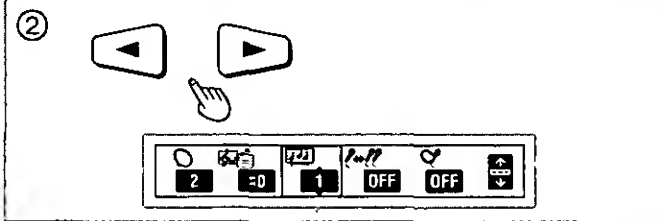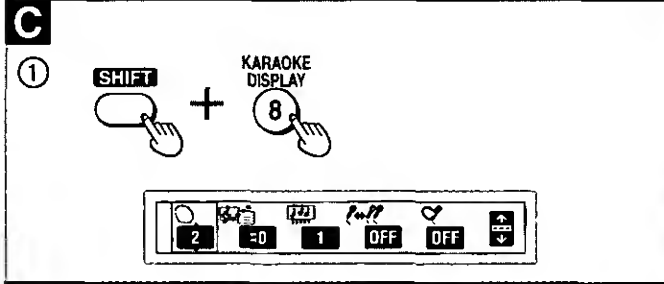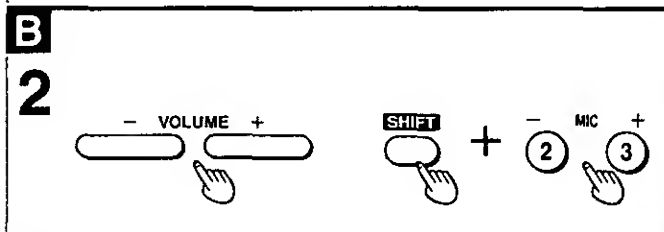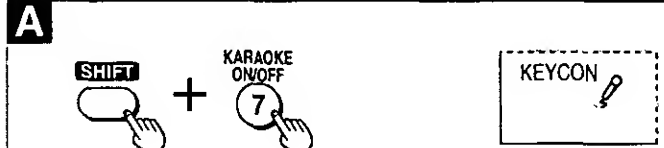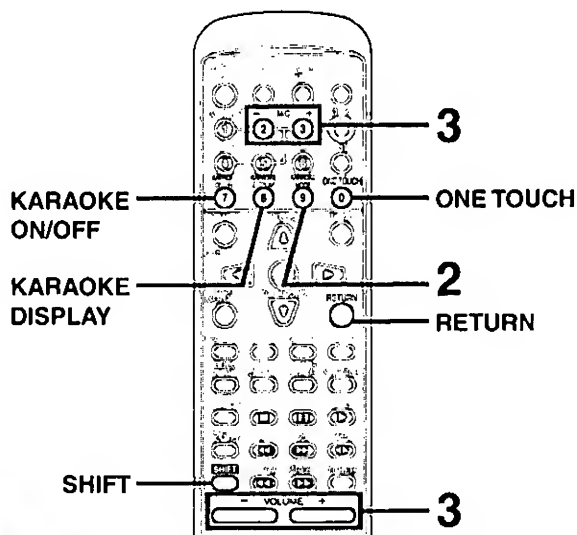
A Before karaoke
Press [SHIFT] + [KARAOKE ON/OFF] to display "KARAOKE ON".
Each time you press the button:
KARAOKE ON (on) ⟷ KARAOKE OFF (off)
The illustrated microphone indicator lights while the karaoke mode is on.

B Enjoying karaoke with other karaoke discs

VCD CD

Remote control only

1 Insert the disc and start play (→ page 14).

2 Press [SHIFT] + [KARAOKE MODE].
The karaoke GUI is displayed on the TV.
Each time you press the button:
L→R→L+R→LR

- L: Only left channel sound (No vocal)
- R: Only right channel sound (Vocal)
- L+R: Left and right channel sound is heard from both speakers. (Vocal and accompaniment)
- LR: Left channel sound is heard from the left speaker and right channel sound is heard from the right speaker. (Vocal and accompaniment)

Select no vocal for karaoke.
Vocal and no vocal may be reversed.

3 Start singing and adjust volume with [− VOLUME +] and [SHIFT] + [− MIC +].
You can adjust the microphone volume level between 0 and 9.

To clear the karaoke GUI
Press [SHIFT] + [KARAOKE DISPLAY].
OR
Press [RETURN].

C Enjoying karaoke with non-karaoke discs

DVD VCD CD

This function reduces the vocal volume.

① Insert the disc and start play (→ page 14).
② Press [SHIFT] + [ONE TOUCH].
The karaoke GUI is displayed on the TV.
Each time you press the button:
ON (on)⟷OFF (off)
③ Start singing and adjust volume with [− VOLUME +] and [SHIFT] + [− MIC +].

To clear the karaoke GUI
Press [SHIFT] + [KARAOKE DISPLAY].
OR
Press [RETURN].

Note
Depending on the type of prerecorded songs, vocal volume cannot be reduced.
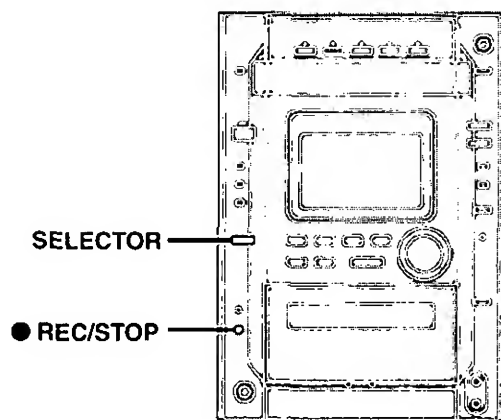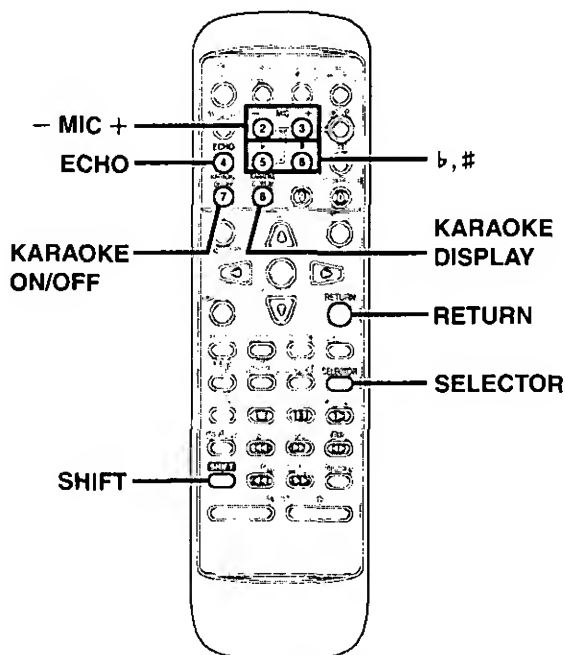
Karaoke operations

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RQT5824

(Left column — remote control diagram and button callouts)

KARAOKE ON/OFF
KARAOKE DISPLAY
ONE TOUCH
RETURN
SHIFT

3
2
3

A
SHIFT + KARAOKE ON/OFF (7)   KEYCON

B
2
SHIFT + KARAOKE MODE (9)

3
− VOLUME +   SHIFT + − MIC + (2)(3)

C
② SHIFT + ONE TOUCH (0)

③ − VOLUME +   SHIFT + − MIC + (2)(3)

- MIC +

ECHO

♭, ♯

KARAOKE DISPLAY

KARAOKE ON/OFF

RETURN

SELECTOR

SHIFT

SELECTOR

● REC/STOP
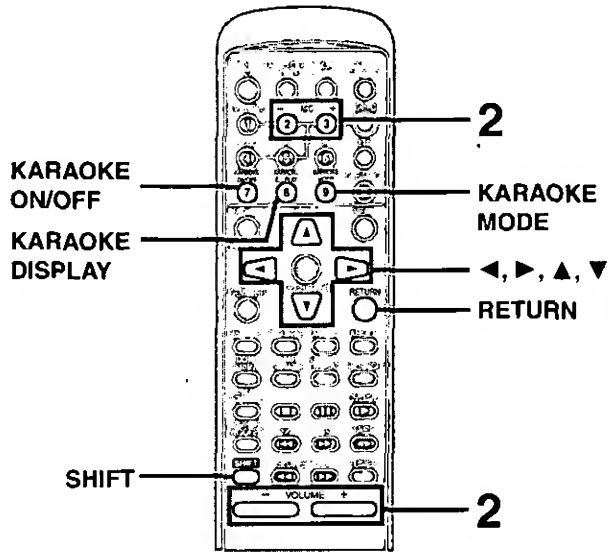
Enjoying karaoke

(For China, the Middle East, South Africa and Asia)

A Before karaoke
Press [SHIFT] + [KARAOKE ON/OFF] to display "KARAOKE ON".
Each time you press the button:
KARAOKE ON (on) ⟷ KARAOKE OFF (off)
The illustrated microphone indicator lights while the karaoke mode is on.

B Changing the key

Remote control only

Press [SHIFT] + [♭], [♯].
The karaoke GUI is displayed on the TV.
♭ : Lower the key.
♯ : Raise the key.
You can raise or lower the key by 6 steps.

To cancel
Press [SHIFT] + [♭], [♯] to display "♮ 0".

To clear the karaoke GUI
Press [SHIFT] + [KARAOKE DISPLAY].
OR
Press [RETURN].

C Adding an echo effect

Remote control only

Press [SHIFT] + [ECHO].
Each time you press the button:
ECHO1→ECHO2→ECHO3→ECHO OFF (off)

The effect increases with the level.

To record your karaoke performance

Preparation: Do the preparatory steps (➡ page 37).

Press [●REC/STOP] and start your karaoke performance.

Note
● The karaoke mode is off when you playback the recorded tape.
● You cannot record in karaoke mode using sound quality effects.

Recording sound from the microphone

Preparation: Do the preparatory steps (➡ page 37).

① Press [SELECTOR] to select "TAPE".
② Press [●REC/STOP] to start recording.
③ Speak through the microphone and adjust the microphone volume with [SHIFT] + [- MIC +].

A

SHIFT + **KARAOKE ON/OFF (7)**

`KEYCON 🎤`

B

SHIFT + **♭ (5)** **♯ (6)**

C

SHIFT + **ECHO (4)**

(On the unit's display)

`ECHO 1`

ECHO

Using the timers
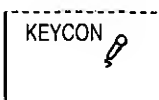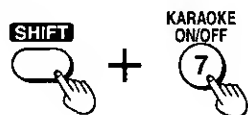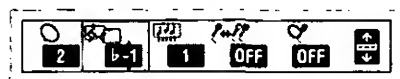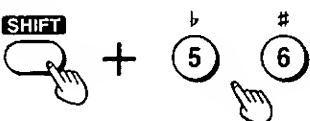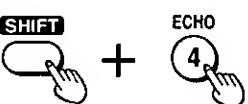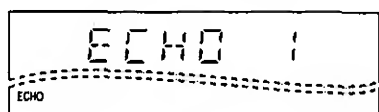
The play timer

This timer starts play of the selected source at the selected time.
For U.S.A. and Canada: 12-hour clock
For others: 24-hour clock
The example shows settings on the 12-hour clock for play between 6:30 a.m. and 7:40 a.m.

Preparation:
● Press [POWER ⏻/I] to turn the unit on, set the time (➡ page 12).
● Select the desired source for timer play.
  Disc
  Press [SELECTOR] to select "DVD/CD" and insert an Audio CD, etc.
  If more than one disc is loaded
  Press [DISC 1]–[DISC 5] to select the disc you want to play and press [■, TUNE MODE].
  Tape
  Press [SELECTOR] to select "TAPE" and insert a cassette.
  The radio
  Press [TUNER, BAND] and tune in the desired station.
● Set the volume for timer play.

1 Press [CLOCK/TIMER] to select "⏲PLAY".
Each time you press the button:
CLOCK→⏲PLAY→⏲REC→Original display

2 ON time setting
① (Within 8 seconds)
  Press [I◀◀/◀◀, ∨] or [▶▶/▶▶I, ∧] to select the start time.
② Press [CLOCK/TIMER].

3 OFF time setting
① Press [I◀◀/◀◀, ∨] or [▶▶/▶▶I, ∧] to select the finish time.
② Press [CLOCK/TIMER].

4 Press [⏲PLAY/⏲REC] to display "⏲PLAY".
Each time you press the button:
⏲PLAY→⏲REC→Original display

5 Press [POWER ⏻/I] to turn the unit off.
The timer will start in the set condition at the set time.
The volume increases gradually to the set level.

If you set the timer incorrectly
Repeat the procedure from step 1.

To cancel the timer
Press [⏲PLAY/⏲REC] to clear "⏲PLAY".
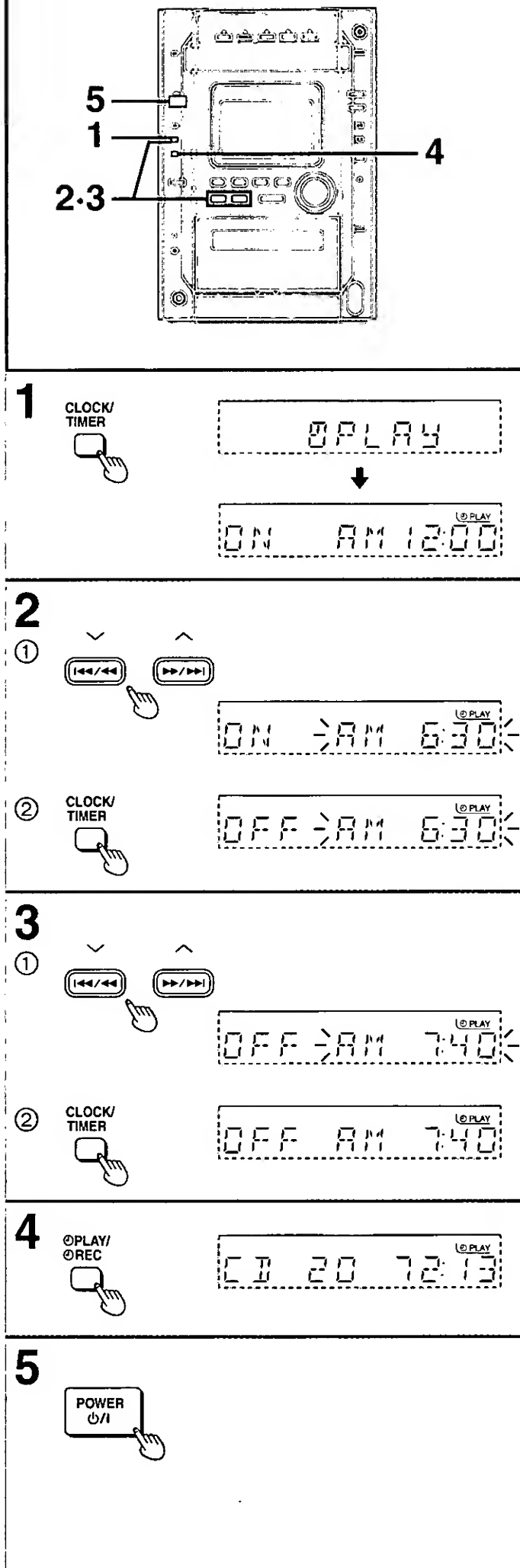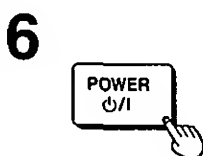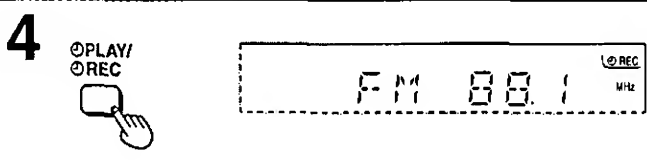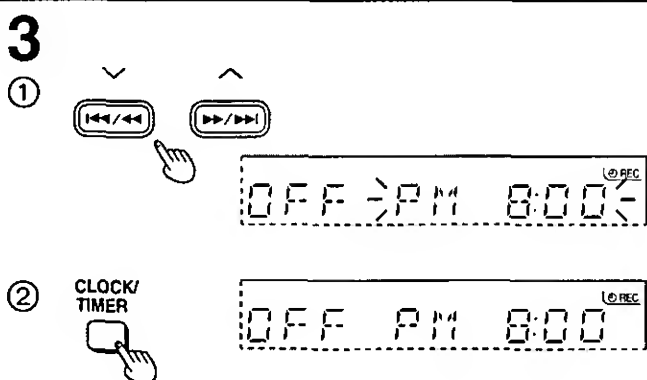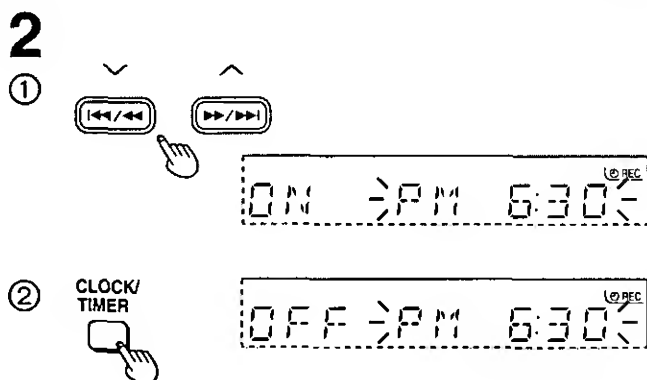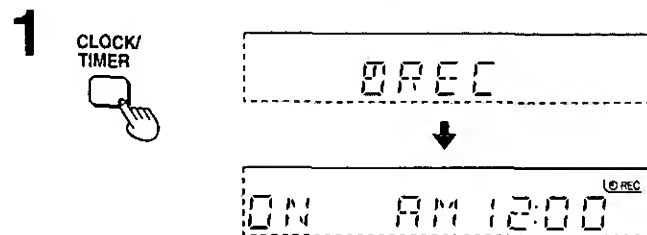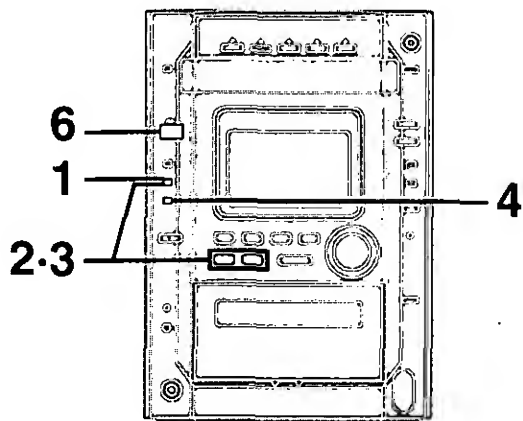
The record timer

This timer records the radio at the set time.
For U.S.A. and Canada: 12-hour clock
For others: 24-hour clock
The example shows settings on the 12-hour clock for recording from 6:30 p.m. to 8:00 p.m.

Preparation:
•Press [POWER ⏻/I] to turn the unit on, set the time (➡ page 12).
•Press [TUNER, BAND] and tune in the desired station.

1 Press [CLOCK/TIMER] to select "⊘REC".
Each time you press the button:
CLOCK→⊘PLAY→⊘REC→Original display

2 ON time setting
① (Within 8 seconds)
Press [I◀◀/◀◀, ∨] or [▶▶/▶▶I, ∧] to select the start time.
② Press [CLOCK/TIMER].

3 OFF time setting
① Press [I◀◀/◀◀, ∨] or [▶▶/▶▶I, ∧] to select the finish time.
② Press [CLOCK/TIMER].

4 Press [⊘PLAY/⊘REC] to display "⊘REC".
Each time you press the button:
⊘PLAY→⊘REC→Original display

5 Prepare for recording (➡ page 37).
① Insert a tape and set the tape direction.
② Select the reverse mode.

6 Press [POWER ⏻/I] to turn the unit off.
Recording starts 30 seconds before the set time with the volume muted.

If you set the timer incorrectly
Repeat the procedure from step 1.

To cancel the timer
Press [⊘PLAY/⊘REC] to clear "⊘REC".

A

CLOCK/
TIMER

⊙PLAY/
⊙REC
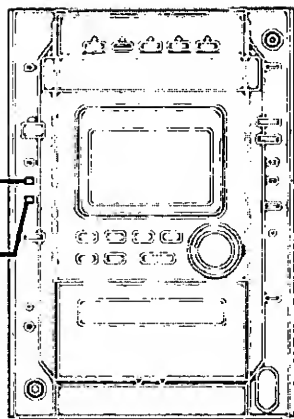
B

SLEEP

AUTO OFF
SLEEP

```
SLEEP        ¦SLEEP
5 L E E P      3 0
```
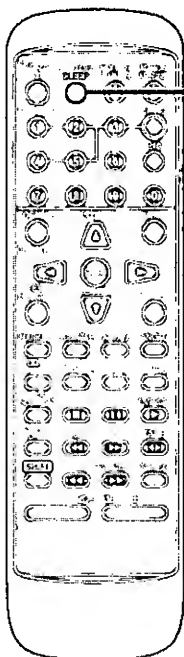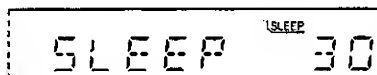
A The play and record timers

Turning the timers on and off

The selected timer comes on at the set time if the indicator ("⊙PLAY"
or "⊙REC") is on. The timer can be turned on and off by pressing
[⊙PLAY/⊙REC].

Checking the timers

- **While the unit is on**
  Press [CLOCK/TIMER] to select "⊙PLAY" or "⊙REC".
  The set timer conditions are shown in the following order.
  Play timer:
  start time→finish time→source→volume
  Record timer:
  start time→finish time→source
- **While the unit is off**
  Press [CLOCK/TIMER].
  The clock and the indicator for the timer that is on are shown.

Playing the unit after the timers are set

The unit can be used after the timers are set.
Check the following before turning the unit off again.
If playing tapes or making a recording:
Reset tape direction.
If playing discs:
Make sure the desired disc is selected.

Note

- If you turn the unit off and on again while a timer is functioning, the
  finish time setting will not be activated.
- If the unit is on, the timer will not function. The unit must be in the
  standby mode.
- If AUX is selected as the source, when the timer comes on, the
  system turns on and engages AUX as the source. If you want to
  playback or record from a connected unit, set the other unit's timer
  to the same time. (See the other unit's instruction manual.)
- The record timer cannot be used with DVDs and Video CDs.
- The timer cannot be used to start the CD MANAGER or program
  play.

B The sleep timer

Remote control only

This timer turns the unit off after a set time.

Press [SLEEP] to select the time (minutes).

Each time you press the button:
SLEEP 30——→SLEEP 60——→SLEEP 90
└—SLEEP OFF←——SLEEP 120←——┘

To cancel the sleep timer

Press [SLEEP] to select "SLEEP OFF".

To confirm the remaining time

While the timer is functioning
Press [SLEEP].
The remaining time is shown for about 5 seconds.

To change the setting

Press [SLEEP] to display the remaining time, then press again to se-
lect the required time.

Using the timers together

The play and sleep timers or the record and sleep timers can be used
together.
The sleep timer always has priority. Be sure not to overlap timer
settings.
The play and record timers cannot be used together.

Timer and others

45

Convenient functions

A Changing the sound range display

The unit's display shows the level of each sound range with the three types of display described below.

Press [-DISPLAY/−DEMO].
Each time you press the button:
Normal display → Peak-hold display → Aurora display

(a) **Normal display**
This display indicates the strength of the sound in each tonal range.

(b) **Peak-hold display**
The peak sound value of each sound range is held on the display for about one second after it occurs.

(c) **Aurora display**
The peak sound value of each sound range is displayed in inverted form.

B Dimming the display

Remote control only

The display is dimmed and all indicators, except for the AC IN indicator, are turned off for better television viewing.

Press [DIMMER].

To cancel, press [DIMMER] again.

C Muting the volume

Remote control only

Press [MUTING].
Volume is reduced to minimum.

To cancel
Press [MUTING] again.
"MUTING" goes out.
To cancel from the unit, turn [VOL] to minimum (−− dB), then raise it to the required level.
Muting is also canceled when the unit is turned off.

D Using headphones (not included)

Reduce the volume before connection.
Avoid listening for prolonged periods of time to prevent hearing damage.
Plug type: 3.5 mm (1/8") stereo

Audio is automatically switched to stereo (2 channel). If sound is distorted, turn on dynamic range compression (→ Audio–D.Range Compression, pages 50–53).

A
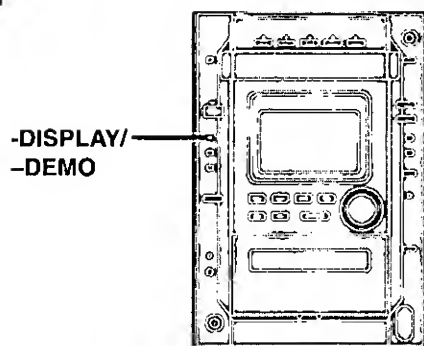
-DISPLAY/
-DEMO

-DISPLAY/
- DEMO

(a)   (b)   (c)
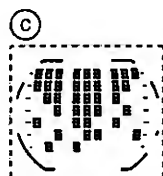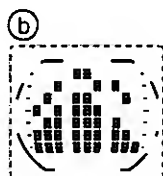
DIMMER   MUTING

B

MIX 2CH
DIMMER

C

ACTION   SET UP
MUTING   MUTING

`MUTING`

D

PHONES

A B Laser disc player/ Video cassette recorder/ Record player

Rear panel

AUDIO OUT

AUX R L

C D TV

Rear panel

S-VIDEO IN — S-VIDEO OUT

Subwoofer — S-VIDEO cable

SUBWOOFER OUT

(A)

E For China

AM ANT EXT LOOP / FM ANT 75Ω

FM outdoor antenna

75 Ω coaxial cable (not included)

For areas except China

AM ANT EXT LOOP / GND FM ANT 75Ω

① → 30 mm
② Shield braid
③ 15 mm — Core wire

F For China

AM ANT EXT LOOP / FM ANT 75Ω

AM outdoor antenna

← 5-12m →

AM loop antenna

For areas except China

AM ANT EXT LOOP / GND FM ANT 75Ω

AM loop antenna

External unit connections

- Turn the unit off before making connections.
- Refer to the manual of the other unit for details. (Cables and equipment not included.)

Stereo connection cable (not included)
White (L) =⊞▷
Red (R) =▷

A Laser disc player/Video cassette recorder, etc.

You can playback the sound from a laser disc player/video cassette recorder through this unit's speakers.

This unit has Dolby Pro Logic circuitry. The sound will be reproduced with the same powerful stereophonic effects found in movie theaters.

B Record player

Sound cannot be produced unless a phono equalizer (not included) is connected.

A record player with a built-in phono equalizer is recommended.

C TV with an S-VIDEO terminal

The S-VIDEO output terminal achieves a more vivid picture than VIDEO OUT terminal by separating the color and luminance signals before transmitting them to the television. (Actual results depend on the television.)

S-VIDEO cable (not included) ⊞——⊞

See the television's manual for details on connection and operation.

D Subwoofer

The included front speakers have superwoofers, but by connecting a subwoofer, you can enhance the bass effect found on DVDs encoded with Dolby Digital (→ page 34 for operation).

Optional antenna connections

Use outdoor antennas if radio reception is poor.

E FM outdoor antenna

- Disconnect the FM indoor antenna.
- The antenna should be installed by a competent technician.

F AM outdoor antenna

Run a piece of vinyl wire horizontally across a window or other convenient location.

Leave the loop antenna connected.

Note
Disconnect the antenna when the unit is not in use.
Do not use the antenna during an electrical storm.

Timer and others

POWER
⏻/I

SELECTOR

● REC/STOP

A

1

SELECTOR

ЯUX

B

1

SELECTOR

ЯUX

2

● REC/STOP

⊃▷ ⊡
REC

C

TV POWER

TV/VIDEO

TV CH UP
TV CH DOWN

SHIFT
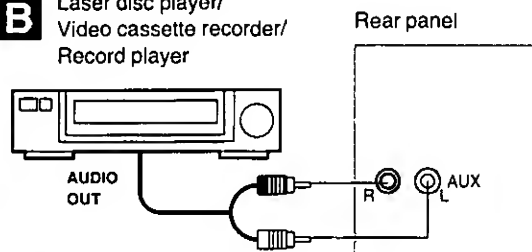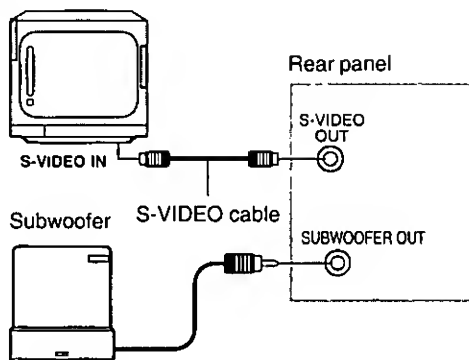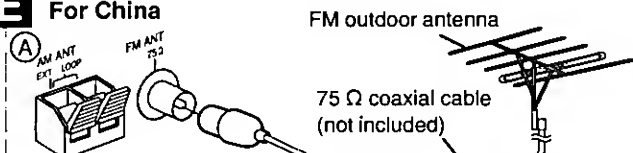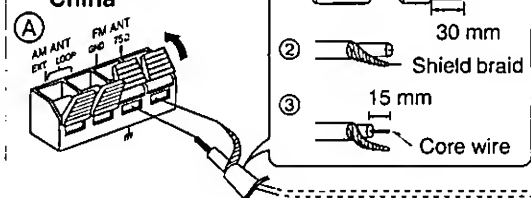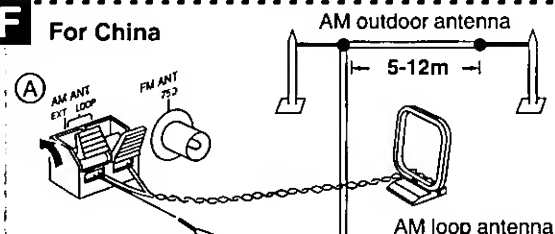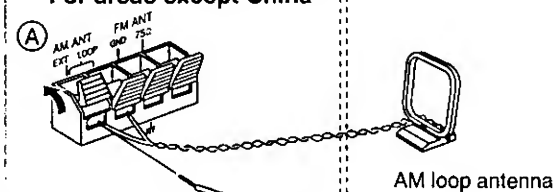
Using other equipment

A Listening to an external source

Preparation: Press [POWER ⏻/I] to turn the unit on.

1 Press [SELECTOR] to select "AUX".
Each time you press the button
TUNER→TAPE→DVD/CD→AUX

2 Operate the unit.
See the unit's manual for details on operation and connection.

B Recording an external source

Preparation:
● Press [POWER ⏻/I] to turn the unit on.
● Do the preparatory steps (⇒ page 37).

1 Press [SELECTOR] to select "AUX".
Each time you press the button
TUNER→TAPE→DVD/CD→AUX

2 Press [●REC/STOP].

3 Start the source to be recorded.
See the unit's manual for details on operation and connection.

To stop recording
Press [●REC/STOP].

C Operating a television with the remote control

You can use the remote control to operate a Panasonic television.

Turning the television on/off
Press [SHIFT] + [TV POWER].

Switching the television's video input mode
Press [SHIFT] + [TV/VIDEO].

Changing channels
Press [SHIFT] + [TV CH UP], [TV CH DOWN].

Note
Some models cannot be operated by this remote control.
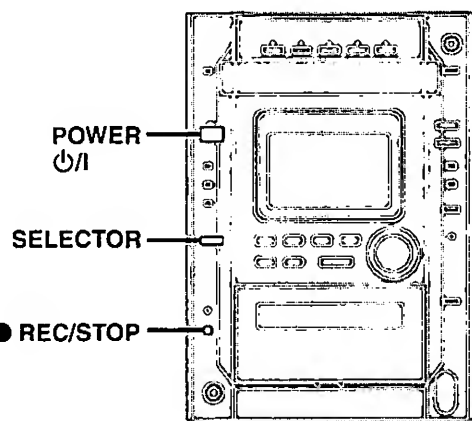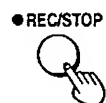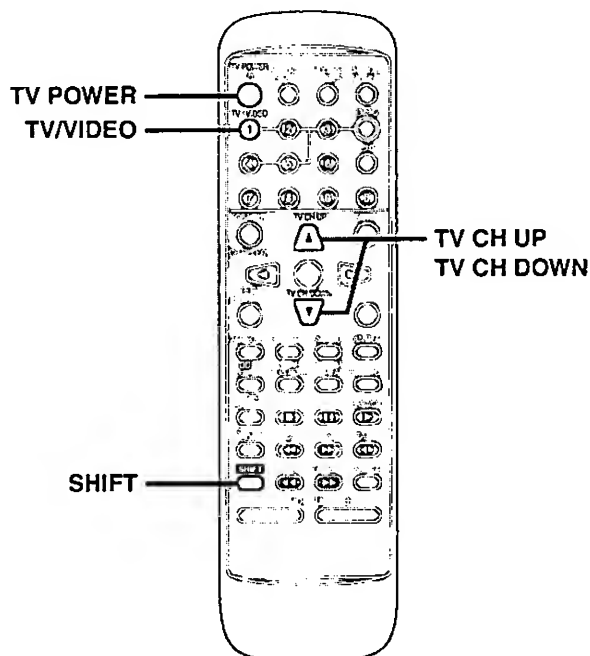
Initial settings

Change the initial settings to suit your preferences and to suit the unit to the environment in which it is being used.

These settings are retained in memory until they are changed, even if the unit is turned off.

Changing the initial settings

See pages 50–53 for menu and option details.

Remote control only

Preparation:
Press [SELECTOR] to select "DVD/CD".

1 For Australia, N.Z., China, the Middle East, South Africa and Asia
Press [SHIFT] + [SET UP].
For U.S.A., Canada and others
Press [SHIFT] + [ACTION].
The screen shows the disc setting menu (ⓐ) first.

2 Press [◄], [►] to select the menu's tab.
The screen changes to display the menu.

→ Disc menu (ⓐ)
↕
Video menu (ⓑ)
↕
Audio menu (ⓒ)
↕
→ Display menu (ⓓ)
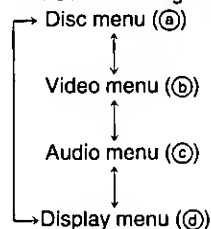
3 Press [▲], [▼] to select the item you want to change and press [ENTER].

4 Press [▲], [▼] to select the option and press [ENTER].
The screen now shows the menu again.

To return to the previous screen
Press [RETURN].

To exit the initial settings menu
Press [SHIFT] + [ACTION] (or [SET UP]).

Note
- The initial settings cannot be accessed while program mode ("P" is displayed, → page 22) or random mode (→ page 23) is on.
  Press [PLAY MODE] to turn the mode off.
- The initial settings cannot be accessed while CD MANAGER (→ page 24) is on.
  Press [CD MANAGER] to select "NORMAL".

Timer and others

1

ACTION
MUTING

[SHIFT] +

SET UP
MUTING

```
┌─────┬───┬──────┬─────┐
│ 🌀  │ 🖵 │ ◁))  │ 📺  │
├─────┴───┴──────┴─────┤
│ Disc                 │
│                      │
│ ┌──────────┬───────┐ │
│ │ Audio    │English│ │
│ ├──────────┼───────┤ │
│ │ Subtitle │Automatic│
│ ├──────────┼───────┤ │
│ │ Menus    │English│ │
│ └──────────┴───────┘ │
│ ┌──────────┬───────┐ │
│ │ Ratings  │Level 8 🔒│
│ └──────────┴───────┘ │
└──────────────────────┘
```

2

[◄] [►]

```
┌─────┬───┬──────┬─────┐
│ 🌀  │ 🖵 │ ◁))  │ 📺  │
├─────┴───┴──────┴─────┤
│ Video                │
│                      │
│ ┌──────────┬─────────┐
│ │ TV Aspect│4:3 Pan&Scan│
│ │          ├─────────┤
│ │          │Automatic│ │
└──────────┴─────────┘
```

```
   ⓐ      ⓑ       ⓒ        ⓓ
┌─────┬────┬──────┬──────┐
│ 🌀  │ 🖵 │ ◁))  │ 📺   │
├─────┴────┴──────┴──────┤
│ Disc                   │
│                        │
│ ┌──────────┬─────────┐ │
│ │ Audio    │ English │ │
```

3·4

[▲][▼] → [ENTER]

49
RQT5824

Summary of initial settings

This chart shows the initial settings for this unit.
See page 49 for details on operation.
Shaded items are the factory settings.

The menu and on-screen message language has been factory preset to English. You can change the language by going to "Menu Language" in the Display menu.

Main menu	Menu	Options
Disc **DVD**	**Audio** Choose the preferred audio language.	**For Australia, N.Z., the Middle East and South Africa** English French German Italian Spanish Original Other ✳✳✳✳ **For China and Asia** English Chinese Original Other ✳✳✳✳
	Subtitle Choose the preferred subtitle language.	**For Australia, N.Z., the Middle East and South Africa** Automatic English French German Italian Spanish Other ✳✳✳✳ **For China and Asia** Automatic English Chinese Other ✳✳✳✳
	Menus Choose the preferred language for disc menus.	**For Australia, N.Z., the Middle East and South Africa** English French German Italian Spanish Other ✳✳✳✳ **For China and Asia** English Chinese Other ✳✳✳✳
	Ratings Set a ratings level to limit DVD play.	**Setting ratings (When level 8 is selected)** 8 No Limit 1 to 7 0 Lock All **Changing ratings (When level 0–7 is selected)** Unlock Player Change Level Change Password Temporary Unlock
Video **DVD** **VCD**	**TV Aspect** Choose the setting to suit your television and preference (➡ page 13).	4:3 Pan & Scan 4:3 Letterbox 16:9
	Still Mode Specify the type of picture shown when paused.	Automatic Field Frame
	NTSC Disc Output Choose whether PAL 60 or NTSC signals are output during playback of NTSC discs (➡ page 6).	PAL 60 (Factory setting for Australia, N.Z., the Middle East and south Africa) NTSC (Factory setting for China and Asia)
Audio	**Speaker Setting** **DVD** (Dolby Digital only) Set the delay time for your center and surround speakers (➡ page 55).	Center: 0 /1.3/2.6/3.9/5.3 ms Surround (L/R): 0 /5.3/10.6/15.9 ms
	D.Range Compression **DVD** (Dolby Digital only) Change the dynamic range. Dynamic range is the difference between the loudest sound and the softest sound.	Off On
	Audio during Search **DVD** **VCD** Choose whether to have sound during search.	On Off
Display	**Menu Language** Choose the preferred language for these menus and the on-screen messages.	**For Australia, N.Z., the Middle East and South Africa** English Français Deutsch Italiano Español **For China and Asia** English 中文
	On-Screen Messages Choose whether to show on-screen messages or not.	On Off

Timer and others

Changes to the initial settings remain intact after the unit is turned off.
Do the setting procedures again to restore to the original settings.

	Remarks
"Other ✶✶✶✶": Input a code number with the numbered buttons (➡ page 54). "Original": The original language of each disc will be selected. "Automatic": If the language selected for "Audio" is not available, subtitles of that language will automatically appear if available on that disc.	Some discs are designed to start in a certain language despite any changes you make here.
Level 8: All DVDs can be played. Level 1 to 7: Prohibits play of DVDs with corresponding ratings recorded on them. Level 0: Prohibits play of all DVDs.	●The password screen is shown if you choose levels 0 to 7 (➡ page 54). ●Select "Level 0" to prevent play of discs that do not have ratings levels recorded on them.
	The password screen is shown when you select "Ratings" if levels 0 to 7 have been selected (➡ page 54).
Field: Less blurred field stills are shown. Select if jittering occurs when "Automatic" is selected. Frame: Sharper frame stills are shown. Select if small text or fine patterns cannot be seen clearly when "Automatic" is selected.	
PAL 60: When connected to a PAL television. NTSC: When connected to an NTSC or a multi-system television.	
When the center/surround speakers cannot be located in the ideal position.	
	Turn dynamic range compression on in the following cases. ●For clear dialogue when listening at low volume. ●When sound is distorted while playing multi-channel DVD audio through two channels (when headphones or a microphone are connected, during recording, or when using the MIX 2CH mode).

Timer and others

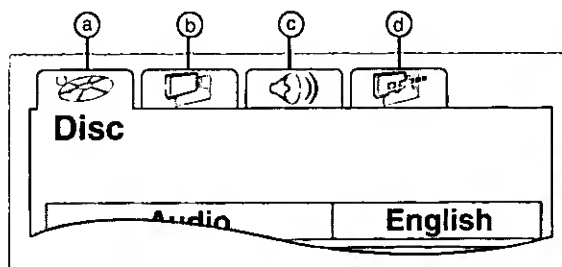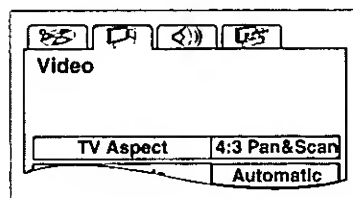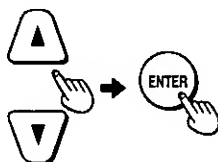*Timer and others*

Summary of initial settings

This chart shows the initial settings for this unit.
See page 49 for details on operation.
Shaded items are the factory settings.

The menu and on-screen message language has been factory preset to English. You can change the language by going to "Menu Language" in the Display menu.

Main menu	Menu	Options
Disc [DVD]	**Audio** Choose the preferred audio language.	English French Spanish Original Other ✱✱✱✱
	Subtitle Choose the preferred subtitle language.	Automatic English French Spanish Other ✱✱✱✱
	Menus Choose the preferred language for disc menus.	English French Spanish Other ✱✱✱✱
	Ratings Set a ratings level to limit DVD play.	**Setting ratings (When level 8 is selected)** 8 No Limit 1 to 7 0 Lock All **Changing ratings (When level 0–7 is selected)** Unlock Player Change Level Change Password Temporary Unlock
Video [DVD] [VCD]	**TV Aspect** Choose the setting to suit your television and preference (➡ page 13).	4:3 Pan & Scan 4:3 Letterbox 16:9
	Still Mode Specify the type of picture shown when paused.	Automatic Field Frame
	Black Level Control Change the black level of the picture.	Lighter Darker
Audio	**Speaker Setting** [DVD] (Dolby Digital only) Set the delay time for your center and surround speakers (➡ page 55).	Center: 0/1.3/2.6/3.9/5.3 ms Surround (L/R): 0/5.3/10.6/15.9 ms
	D.Range Compression [DVD] (Dolby Digital only) Change the dynamic range. Dynamic range is the difference between the loudest sound and the softest sound.	Off On
	Audio during Search [DVD] [VCD] Choose whether to have sound during search.	On Off
Display	**Menu Language** Choose the preferred language for these menus and the on-screen messages.	English Français Español
	On-Screen Messages Choose whether to show on-screen messages or not.	On Off

Changes to the initial settings remain intact after the unit is turned off.
Do the setting procedures again to restore to the original settings.

	Remarks
"Other ✳✳✳✳": Input a code number with the numbered buttons (➡ page 54). "Original": The original language of each disc will be selected. "Automatic": If the language selected for "Audio" is not available, subtitles of that language will automatically appear if available on that disc.	Some discs are designed to start in a certain language despite any changes you make here.
Level 8: All DVDs can be played. Level 1 to 7: Prohibits play of DVDs with corresponding ratings recorded on them. Level 0: Prohibits play of all DVDs.	●The password screen is shown if you choose levels 0 to 7 (➡ page 54). ●Select "Level 0" to prevent play of discs that do not have ratings levels recorded on them.
	The password screen is shown when you select "Ratings" if levels 0 to 7 have been selected (➡ page 54).
Field: Less blurred field stills are shown. Select if jittering occurs when "Automatic" is selected. Frame: Sharper frame stills are shown. Select if small text or fine patterns cannot be seen clearly when "Automatic" is selected.	
When the center/surround speakers cannot be located in the ideal position.	
	Turn dynamic range compression on in the following cases. ●For clear dialogue when listening at low volume. ●When sound is distorted while playing multi-channel DVD audio through two channels (when headphones are connected, during recording, or when using the MIX 2CH mode).

Timer and others

Entering a password

When setting ratings (When the level is 8)

The password screen is shown when you select levels 0 to 7.

1. Input a 4-digit password with the numbered buttons and press [ENTER].
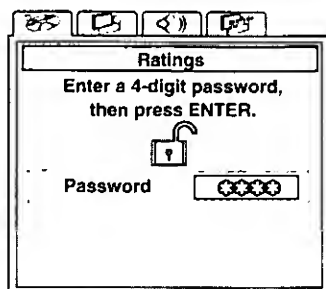
●If you enter a wrong number, press [◄] to erase it before you press [ENTER].
The lock symbol appears closed to show the rating is locked.
Do not forget your password.

2. Press [ENTER] to confirm the 4 digits.

Now, when you insert a DVD that exceeds the ratings limit you set, a message appears on the television.
Follow the on-screen instructions.

When changing ratings (When the level is 0 to 7)

The password screen is shown when you select "Ratings".

1. Input your 4-digit password with the numbered buttons and press [ENTER].
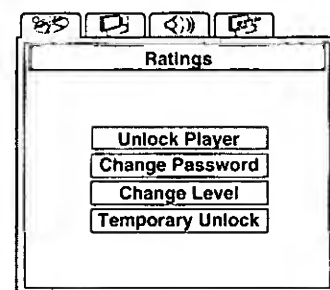
2. Select the item with [▲], [▼] and press [ENTER] and follow the on-screen instructions.

Language code list

6566: Abkhazian	7074: Fiji	7679: Laotian	8373: Singhalese
6565: Afar	7073: Finnish	7684: Lithuanian	8375: Slovak
6570: Afrikaans	7082: French	7775: Macedonian	8376: Slovenian
8381: Albanian	7089: Frisian	7771: Malagasy	8379: Somali
6577: Ameharic	7176: Galician	7783: Malay	6983: Spanish
6582: Arabic	7565: Georgian	7776: Malayalam	8385: Sundanese
7289: Armenian	6869: German	7784: Maltese	8387: Swahili
6583: Assamese	6976: Greek	7773: Maori	8386: Swedish
6588: Aymara	7576: Greenlandic	7782: Marathi	8476: Tagalog
6590: Azerbaijani	7178: Guarani	7779: Moldavian	8471: Tajik
6665: Bashkir	7185: Gujarati	7778: Mongolian	8465: Tamil
6985: Basque	7265: Hausa	7865: Nauru	8484: Tatar
6678: Bengal;Bangla	7387: Hebrew	7869: Nepali	8469: Telugu
6890: Bhutani	7273: Hindi	7879: Norwegian	8472: Thai
6672: Bihari	7285: Hungarian	7982: Oriya	6679: Tibetan
6682: Breton	7383: Icelandic	8065: Punjabi	8473: Tigrinya
6671: Bulgarian	7165: Irish	8083: Pashto, Pushto	8479: Tonga
7789: Burmese	7378: Indonesian	7065: Persian	8482: Turkish
6669: Byelorussian	7365: Interlingua	8076: Polish	8475: Turkmen
7577: Cambodian	7384: Italian	8084: Portuguese	8487: Twi
6765: Catalan	7465: Japanese	8185: Quechua	8575: Ukrainian
9072: Chinese	7487: Javanese	8277: Rhaeto-Romance	8582: Urdu
6779: Corsican	7578: Kannada	8279: Romanian	8590: Uzbek
7282: Croatian	7583: Kashmiri	8285: Russian	8673: Vietnamese
6783: Czech	7575: Kazakh	8377: Samoan	8679: Volapük
6865: Danish	7589: Kirghiz	8365: Sanskrit	6789: Welsh
7876: Dutch	7579: Korean	7168: Scots Gaelic	8779: Wolof
6978: English	7585: Kurdish	8382: Serbian	8872: Xhosa
6979: Esperanto	7665: Latin	8372: Serbo-Croatian	7473: Yiddish
6984: Estonian	7686: Lativian, Lettish	8378: Shona	8979: Yoruba
7079: Faroese	7678: Lingala	8368: Sindhi	9085: Zulu

Timer and others

The sound from speakers can reach the listening position at different times depending on placement. You can allow for this difference by changing the delay time of the center and surround speakers.

Calculating delay time

Ideal position of the center speaker

It is recommended to place all the speakers inside this circle.

Ideal position of the surround speaker
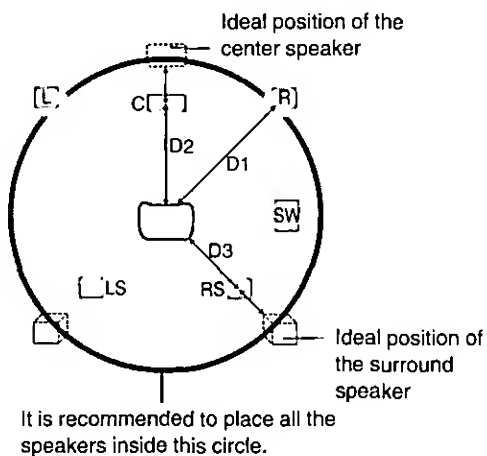
D1: The distance from the front speaker
D2: The distance from the center speaker
D3: The distance from the surround speaker

Center speaker delay time
If D1 ≦ D2, then set delay time to 0 ms.
If D1 > D2, then set delay time as follows:

Difference between D1 and D2	Delay time
50 cm	1.3 ms
100 cm	2.6 ms
150 cm	3.9 ms
200 cm	5.3 ms

Surround speaker delay time
If D1 ≦ D3, then set delay time to 0 ms.
If D1 > D3, then set delay time as follows:

Difference between D1 and D3	Delay time
200 cm	5.3 ms
400 cm	10.6 ms
600 cm	15.9 ms

Changing the delay time
1. Press the cursor buttons to select the delay time box and press [ENTER].
2. Press [Δ], [▽] to adjust the delay time and press [ENTER].

Center delay time

Surround delay time

Timer and others
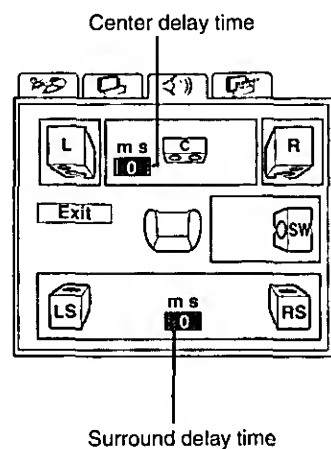
Troubleshooting guide

Before requesting service, make the below checks. If you are in doubt about some of the check points, or if the remedies indicated in the chart do not solve the problem:
In the U.S.A., contact the Panasonic Customer Call Center at 1-800-211-7262, or e-mail consumerproducts@panasonic.com, or web site (http://www.panasonic.com).
In Canada, contact Panasonic Canada Inc. Customer Care Centre at 1-800-561-5505, or web site (www.panasonic.ca), or an authorized Servicentre nearest you.

Reference pages are shown as black circled numbers ❽.

Common Problems

No sound.	Turn the volume up. The speaker cables may be shorted. Turn the unit off, check and correct the connections and turn the unit on. ❽
Sound is unfixed, reversed or comes from one speaker only.	Check the speaker connections. ❽
Humming heard during play.	An AC power supply cord or fluorescent light is near the cables. Keep other appliances and cords away from this unit's cables. If possible in your area, turn the AC power supply cord's plug or connector over to reverse the plug's polarity.
"ERROR" is displayed.	Incorrect operation performed. Read the instructions and try again.
"--:--" appears on the display.	You plugged the power supply cord in for the first time or there was a power failure recently. Set the time. ⓬
"F61" is displayed.	Check and correct the speaker cords connection. If this does not fix the problem, there is a power supply problem. Consult the dealer.
The display starts up even after the unit is turned off.	The demonstration feature (DEMO) is on. Turn it off if it is not required. ⓬
"DTS NO AUDIO" is displayed.	This unit is unable to decode DTS signals.
"DTS CD" is displayed.	This unit is unable to decode DTS signals.
"DVD U11" is displayed.	The disc is dirty. Wipe it with a soft cloth.
"DVD H ☐☐" is displayed. (☐☐ will be numbers.)	A problem has occurred. Turn the unit off and unplug the AC power supply cord. Wait a moment and then plug the cord in and turn on the unit again. If the unit is still not working correctly, consult your dealer.

Listening to the radio

Noise is heard. The stereo indicator flickers or doesn't light. Sound is distorted.	Use an outdoor antenna. ⓱
A beat sound is heard.	Turn the TV off or separate it from the unit.
A low hum is heard during AM broadcasts.	Separate the antenna from other cables and cords.

When there is a television set nearby

The picture on the TV disappears or stripes appear on the screen.	The location and orientation of the antenna are incorrect. If you are using an indoor antenna, change to an outdoor antenna. The TV antenna wire is too close to the unit. Separate the antenna wire of the TV set from the unit.

Listening to tapes

Poor quality sound.	Clean the heads. ㊲
Recording is not possible.	If the erasure prevention tabs have been removed, cover the holes with adhesive tape. ㊲

References

Playing discs

The display is wrong or play won't start.	The disc may be upside down. ⓪ Wipe the disc. Replace the disc if it is scratched, warped, or nonstandard. Condensation may have formed inside the unit due to a sudden change in temperature. Wait about an hour for it to clear and try again.
"TAKE OUT/DISC" appears on the display.	There is a problem with the disc mechanism. (A power failure may have occurred.) The tray will open automatically. Remove the disc from the tray, and after ensuring there is no disc in the tray close it. The unit will make the disc changing noises for a few moments and then it should operate normally.
The picture does not appear on the TV, when playing DVD or Video CD.	The region number of the disc doesn't match the region number of this unit. (DVD only) ⑤ Connect the video connection cable. ⑧ Set the TV to video input mode.
CD MANAGER, program and random play cannot be used.	Ensure a Video CD or CD is in the play position tray. ㉒, ㉓, ㉔
The initial settings menu cannot be accessed.	Select disc as the source. Cancel program and random play , or select "NORMAL" with CD MANAGER. ㉒, ㉓, ㉔
You have forgotten your ratings password.	Reset the unit to its original factory settings by doing the following. ① Press [◻, TUNE MODE] on the main unit and [≥10] on the remote control at the same time for about 3 seconds until the message "Initialized" disappears from the television screen. ② Turn the unit off and on again.
(For China, the Middle East, South Africa and Asia) "ERROR" appears on the display when you press a button to control karaoke.	Press [SHIFT] + [KARAOKE ON/OFF] to display "KARAOKE ON". ㊵, ㊶, ㊷ (You cannot use karaoke functions if the karaoke mode is off.)

The remote control

The remote control doesn't work.	Check the batteries are inserted correctly. ⑤ Replace the batteries if they are worn.

Maintenance

If the surfaces are dirty

To clean this unit, wipe with a soft, dry cloth.

• Never use alcohol, paint thinner or benzine to clean this unit.
• Before using chemically treated cloth, read the instructions that came with the cloth carefully.

For a cleaner crisper sound

Clean the heads regularly to assure good quality playback and recording.
Use a cleaning tape (not included).

Product Service

Do not attempt to remove the cover(s) or repair the unit yourself. Refer servicing to qualified personnel only.

Product information

For product service, product information or assistance with product operation, refer to the servicenter directory.

References

Glossary

Chapter
This is the smallest division on DVD and is roughly equivalent to a track.

Title
This is the largest division on DVD.

Track
This is the smallest division on Video CD and Audio CD, and usually equates to a single song.

PBC (Playback control)
This method of controlling disc play is included on version 2.0 Video CDs. You are able to interact with the disc through menus.

Digital audio

Bitstream
This is the digital form of multiple channel audio data (e.g. 5.1 channel) before it is decoded into its various channels.

Decoder
A decoder restores the coded audio signals on DVDs to normal. This is called decoding.

PCM (Pulse code modulation), Linear PCM
PCM is the usual digital method used for Audio CDs. DVDs have a greater volume so they use linear PCM, which has a higher sampling rate.

Sampling rate
This is the number of samples of sound taken per second during conversion to a digital signal. Sampling frequency is expressed in kilohertz (kHz). A high sampling frequency results in a sound close to the original when played back.

Video

Frame
Frames are the still pictures that go together to make a moving picture. There are about thirty frames shown each second.

Field
One frame is made up of two fields. A regular television shows these fields one after the other to create frames.

Frame still and field still
A still is shown when you pause a moving picture. A frame still is made up of two alternating fields, so the picture may appear blurred, but overall quality is high. A field still is not blurred, but it has only half the information of a frame still so picture quality is lower.

I/P/B
MPEG 2, the video compression standard adapted for use with DVD, codes frames using these three picture types.

I: Intra coded picture (I-picture)
   This is the standard picture and is a complete picture in itself. This means it has the best picture quality and is the best to use when adjusting the picture.
P: Predictive coded picture (P-picture)
   This picture is calculated based on past I and P-pictures.
B: Bidirectionally-predictive coded picture (B-picture)
   This picture is calculated by comparing past and future I and P-pictures so it has the lowest volume of information.

Panasonic Consumer Electronics Company,
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One Panasonic Way,
Secaucus, New Jersey 07094

Panasonic Sales Company, Division of Matsushita Electric
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Ave. 65 de Infantería, Km. 9.5, San Gabriel Industrial
Park, Carolina, Puerto Rico 00985

Panasonic/Technics Audio Products
Limited Warranty

Panasonic Consumer Electronics Company or Panasonic Sales Company (collectively referred to as "the warrantor") will repair this product with new or refurbished parts in the event of a defect in materials or workmanship, free of charge, in the U.S.A. or Puerto Rico as follows (all time periods start from the date of original purchase):

AUDIO PRODUCTS—labor and parts for one (1) year.
ALL AUDIO RACKS (cabinets)—parts only 30 days.
TECHNICS STAND ALONE SPEAKERS, SUBWOOFER SPEAKERS—labor and parts for three (3) years.
USB READER-WRITER, PERSONAL COMPUTER CARD ADAPTERS—(when applicable)—exchange defective unit with a new or refurbished one for one (1) year.
ACCESSORIES—HEADPHONES, CARTRIDGES, MICROPHONES, ADAPTERS—labor and parts for ninety (90) days.
RECHARGEABLE BATTERIES—(when applicable)—exchange defective item for new one for ten (10) days. Non-rechargeable batteries are not warranted.
SD MEMORY CARDS, RECHARGEABLE BATTERY PACKS—(when applicable)—exchange defective item for new one for ninety (90) days. Non-rechargeable battery packs are not warranted.

Carry-in or mail-in service in the U.S.A. can be obtained during the warranty period by contacting a Panasonic Services Company (PASC) Factory Servicenter listed in the Servicenter Directory. Or call toll free, 1-800-211-7262 to locate a PASC authorized Servicenter. Carry-in or mail-in service in Puerto Rico can be obtained during the warranty period by calling the Panasonic Sales Company telephone number listed in the Servicenter Directory.

This warranty is extended only to the original purchaser. A purchase receipt or other proof of date of original purchase will be required before warranty service is rendered.

This warranty only covers failures due to defects in materials and workmanship which occur during normal use and does not cover normal wear to the stylus (when applicable) or a dealer installed cartridge or stylus. The warranty does not cover damages which occur in shipment or failures which are caused by products not supplied by the warrantor, or failures which result from accident, misuse, abuse, neglect, mishandling, faulty installation, misapplication, set-up adjustments, maladjustment of consumer controls, improper operation or maintenance, improper antenna, inadequate signal reception or pick-up, alteration, modification, power line surge, improper voltage supply, lightning damage, commercial use, such as; hotel, office, restaurant, or other business or rental use of the product, or service by anyone other than a PASC Factory Servicenter or a PASC authorized Servicenter, or damage that is attributable to acts of God.

LIMITS AND EXCLUSIONS

There are no express warranties except as listed above.

THE WARRANTOR SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING WITHOUT LIMITATION, DAMAGE TO TAPES, RECORDS OR DISCS. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY, AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above exclusions or limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

If a problem with this product develops during or after the warranty period, you may contact your dealer or Servicenter. If the problem is not handled to your satisfaction, then write to the Consumer Affairs Department at the company address indicated above.

If you ship the product

Carefully pack and send it prepaid, adequately insured and preferably in the original carton.
Attach a postage-affixed letter, detailing the complaint, to the outside of the carton.

Do NOT send the product to the Executive or Regional Sales offices. They are NOT equipped to make repairs.

Customer's Record

Model
No. _____

Serial
No. _____
or

Code
No. _____

Date
of
Purchase _____

Dealer's
Name _____

_____

Dealer's
Address _____

_____

References

Panasonic   Technics   Quasar.

For Product Information, Operating Assistance, Literature Request, Dealer Locations, and all Customer Service inquiries please contact:
1-800-211-PANA (7262), Monday–Friday 9-am–9-pm; Saturday–Sunday 9-am–7-pm, EST.

Web Site: http://www.panasonic.com
You can purchase parts, accessories or locate your nearest servicenter by visiting our Web Site.

Accessory Purchases:

1-800-332-5368 (Customer Orders Only)
Panasonic Services Company 20421 84th Avenue South, Kent, WA 98032
(6 am to 5 pm Monday–Friday; 6 am to 10:30 am Saturday; PST)
(Visa, MasterCard, Discover Card, American Express, Check)

Factory Servicenters Locations

CALIFORNIA
6550 Katella Avenue
Cypress, CA 90630

800 Dubuque Avenue
S. San Francisco
CA 94080

20201 Sherman Way
Suite 102
Canoga Park, CA 91306

3878 Ruffin Road
Suite A
San Diego, CA 92123

COLORADO
1640 South Abilene Street
Suite D
Aurora, CO 80012

FLORIDA
3700 North 29th Avenue
Suite 102
Hollywood, FL 33020

GEORGIA
8655 Roswell Road
Suite 100
Atlanta, GA 30350

ILLINOIS
9060 Golf Road
Niles, IL 60714

1703 North Randall Road
Elgin, IL 60123
(Pick-up/Drop-off only)

MARYLAND
62 Mountain Road
Glen Burnie, MD 21061

MASSACHUSETTS
60 Glacier Drive
Suite G
Westwood, MA 02090

MICHIGAN
37048 Van Dyke Avenue
Sterling Heights, MI 48312

MINNESOTA
7850-12th Avenue South
Airport Business Center
Bloomington, MN 55425

OHIO
2236 Waycross Road
Civic Center Plaza
Forest Park, OH 45240

PENNSYLVANIA
2221 Cabot Blvd. West
Suite B
Langhorne, PA 19047

TEXAS
13615 Welch Road
Suite 101
Farmers Branch
TX 75244

WASHINGTON
20425-84th Avenue South
Kent, WA 98032

HAWAII
99-859 Iwaiwa Street
Aiea, Hawaii 96701
Phone (808) 488-1996
Fax (808) 486-4369

Service in Puerto Rico
Matsushita Electric of Puerto Rico, Inc. Panasonic Sales Company/Factory Servicenter:
Ave. 65 de Infanteria, Km. 9.5, San Gabriel Industrial Park, Carolina, Puerto Rico 00985
Phone (787) 750-4300   Fax (787) 768-2910

F04030   As of APR '00

References

Specifications [For the Middle East, South Africa, and Asia]

AMPLIFIER SECTION
Stereo mode power output
  RMS power output
    THD 10 %, both channels driven
      LF 75 Hz   80 W per channel (8 Ω)
      HF 1 kHz   35 W per channel (6 Ω)
  Total stereo mode power   230 W
  PMPO power output   1900 W
Power output in Home Theater mode
  RMS power output
    THD 10 %, both channels driven
    Front
      LF 75 Hz   80 W per channel (8 Ω)
      HF 1 kHz   35 W per channel (6 Ω)
    Center 1 kHz   80 W (8 Ω)
    Surround 1 kHz
      40 W per channel (8 Ω)
  Total power output   390 W
  PMPO power output   3200 W
Input sensitivity
  AUX   250 mV
  MIC   0.7 mV
Input Impedance
  AUX   10 kΩ
  MIC   600 Ω

FM TUNER SECTION
Frequency range
    87.50–108.00 MHz (50 kHz step)
Sensitivity   1.8 µV (IHF)
  S/N 26 dB   1.5 µV
Antenna terminals   75 Ω (unbalanced)

AM TUNER SECTION
Frequency range
    522–1629 kHz (9 kHz step)
    520–1630 kHz (10 kHz step)
Sensitivity
  S/N 20 dB at 999 kHz   500 µV/m

CASSETTE DECK SECTION
Track system   4 track, 2 channel
Heads
  Record/playback   Solid permalloy head
  Erasure   Double gap ferrite head
Motor   DC servo motor
Recording system   AC bias 100 kHz
Erasing system   AC erase 100 kHz
Tape speed   4.8 cm/s (17/8 ips)
Overall frequency response
(+3, −6 dB at DECK OUT)
  NORMAL (TYPE I)   35 Hz–14 kHz
  HIGH (TYPE II)   35 Hz–14 kHz
S/N ratio   50 dB (A_WTD)
Wow and flutter   0.18 % (WRMS)
Fast forward and rewind time
    Approx. 120 seconds
    with C-60 cassette tape

DISC SECTION
Disc
  DVD-Video
    8 cm/12 cm single-sided, single-layer
    8 cm/12 cm single-sided, double-layer
    8 cm/12 cm double-sided, double-layer
      (One layer per side)
  Video CD/CD   8 cm/12 cm (CD-R/RW)
Video
  Signal system   NTSC/PAL
    (depending on disc format)
  Output level
    Composite video   1 Vp-p (75 Ω)
    S-VIDEO Y   1 Vp-p (75 Ω)
    S-VIDEO C   0.300 Vp-p (75 Ω/PAL)
      0.286 Vp-p (75 Ω/NTSC)
Audio
  Sampling frequency
    CD   44.1 kHz
    DVD   48 kHz/96 kHz
  Decoding   16/20/24 bit linear
  Wow and flutter
    Below measurable limit
  D/A converter   Delta-sigma DAC
Pick up
  Beam Source   Semiconductor Laser
  Wavelength
    DVD   658 nm
    VCD/CD   790 nm

SPEAKER SECTION
[Front speakers SB-DK10]
Type   4 way, 4 speaker bass-reflex system
Speakers
  Super woofer   14 cm cone type
  Woofer   12 cm cone type
  Tweeter   6 cm cone type
  Super tweeter   Piezo type
Impedance
  High frequency   6 Ω
  Low frequency   8 Ω
Input power
  High frequency   60 W (Music)
  Low frequency   120 W (Music)
Output sound pressure level
    87 dB/W (1.0 m)
Cross over frequency
    150 Hz, 5 kHz, 10 kHz
Frequency range
    45 Hz–22 kHz (−16 dB)
    55 Hz–20 kHz (−10 dB)
Dimensions (W×H×D)
    173×315×315 mm
Mass   4.1 kg

[Surround speakers SB-PS90]
Type   1 way, 1 speaker, closed system
Speaker
  Full range   8 cm cone type
Impedance   8 Ω
Input power   70 W (Music)
Output sound pressure level
    84 dB/W (1.0 m)
Frequency range
    130 Hz–20 kHz (−16 dB)
    150 Hz–18 kHz (−10 dB)
Dimensions (W×H×D)
    140×99×118 mm
Mass   0.9 kg

[Center speaker SB-PC90]
Type   2 way, 3 speaker, bass-reflex system
Speaker
  Woofer   8 cm cone type×2
  Tweeter   6 cm cone type
Impedance   8 Ω
Input power   160 W (Music)
Output sound pressure level
    86 dB/W (1.0 m)
Cross over frequency   4 kHz
Frequency range
    100 Hz–22 kHz (−16 dB)
    115 Hz–20 kHz (−10 dB)
Dimensions (W×H×D)
    190×99×166 mm
Mass   1.8 kg

GENERAL
Power supply
    AC 110/127/220–230/240 V,
    50/60 Hz
Power consumption
    191 W
Dimensions (W×H×D)
    215.4×315×350 mm
Mass   8.2 kg

Power consumption in standby mode:	0.8 W

Notes:
1. Specifications are subject to change without notice.
   Mass and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

References

References

AMPLIFIER SECTION

Stereo mode power output
RMS power output
THD 10 %, both channels driven
LF 75 Hz   70 W per channel (8 Ω)
HF 1 kHz   30 W per channel (6 Ω)
Total stereo mode power   200 W
Power output in Home Theater mode
RMS power output
THD 10 %, both channels driven
Front
LF 75 Hz   70 W per channel (8 Ω)
HF 1 kHz   30 W per channel (6 Ω)
Center 1 kHz   40 W (8 Ω)
Surround 1 kHz
35 W per channel (8 Ω)
Total power output   310 W
Input sensitivity
AUX   250 mV
(Only for China)
MIC   0.7 mV
Input impedance
AUX   10 kΩ
(Only for China)
MIC   600 Ω

FM TUNER SECTION

Frequency range
87.50–108.00 MHz (50 kHz step)
Sensitivity   1.8 µV (IHF)
S/N 26 dB   1.5 µV
Antenna terminals   75 Ω (unbalanced)

AM TUNER SECTION

Frequency range
(For Australia and N.Z.)
522–1629 kHz (9 kHz step)
(For China)
522–1629 kHz (9 kHz step)
520–1630 kHz (10 kHz step)
Sensitivity
S/N 20 dB at 999 kHz   500 µV/m

CASSETTE DECK SECTION

Track system   4 track, 2 channel
Heads
Record/playback   Solid permalloy head
Erasure   Double gap ferrite head
Motor   DC servo motor
Recording system   AC bias 100 kHz
Erasing system   AC erase 100 kHz
Tape speed   4.8 cm/s (1⁷/₈ ips)
Overall frequency response
(+3, −6 dB at DECK OUT)
NORMAL (TYPE I)   35 Hz–14 kHz
HIGH (TYPE II)   35 Hz–14 kHz
S/N ratio   50 dB (A_WTD)
Wow and flutter   0.18 % (WRMS)
Fast forward and rewind time
Approx. 120 seconds
with C-60 cassette tape

DISC SECTION

Disc
DVD-Video
8 cm/12 cm single-sided, single-layer
8 cm/12 cm single-sided, double-layer
8 cm/12 cm double-sided, double-layer
(One layer per side)
Video CD/CD   8 cm/12 cm (CD-R/RW)
Video
Signal system   NTSC/PAL
(depending on disc format)
Output level
Composite video   1 Vp-p (75 Ω)
S-VIDEO Y   1 Vp-p (75 Ω)
S-VIDEO C   0.300 Vp-p (75 Ω/PAL)
0.286 Vp-p (75 Ω/NTSC)
Audio
Sampling frequency
CD   44.1 kHz
DVD   48 kHz/96 kHz
Decoding   16/20/24 bit linear
Wow and flutter
Below measurable limit
D/A converter   Delta-sigma DAC
Pick up
Beam Source   Semiconductor Laser
Wavelength
DVD   658 nm
VCD/CD   790 nm

SPEAKER SECTION

Front speakers SB-DK10
Type   4 way, 4 speaker
bass-reflex system
Speakers
Super woofer   14 cm cone type
Woofer   12 cm cone type
Tweeter   6 cm cone type
Super tweeter   Piezo type
Impedance
High frequency   6 Ω
Low frequency   8 Ω
Input power
High frequency   60 W (Music)
Low frequency   120 W (Music)
Output sound pressure level
87 dB/W (1.0 m)
Cross over frequency
150 Hz, 5 kHz, 10 kHz
Frequency range
45 Hz–22 kHz (−16 dB)
55 Hz–20 kHz (−10 dB)
Dimensions (W×H×D)
173×315×315 mm
Mass   4.1 kg

Surround speakers SB-PS90
Type   1 way, 1 speaker,
closed system
Speaker
Full range   8 cm cone type
Impedance   8 Ω
Input power   70 W (Music)
Output sound pressure level
84 dB/W (1.0 m)
Frequency range
130 Hz–20 kHz (−16 dB)
150 Hz–18 kHz (−10 dB)
Dimensions (W×H×D)
140×99×118 mm
Mass   0.9 kg

Center speaker SB-PC93
Type   1 way, 1 speaker,
closed system
Speaker
Full range   8 cm cone type
Impedance   8 Ω
Input power   70 W (Music)
Output sound pressure level
84 dB/W (1.0 m)
Frequency range
130 Hz–20 kHz (−16 dB)
150 Hz–18 kHz (−10 dB)
Dimensions (W×H×D)
140×99×118 mm
Mass   0.8 kg

GENERAL

For Australia and N.Z.
Power supply   AC 230–240 V, 50 Hz
Power consumption   186 W
Dimensions (W×H×D)
215.4×315×350 mm
Mass   8.2 kg

GENERAL

For China
Power supply   AC 220 V, 50 Hz
Power consumption   195 W
Dimensions (W×H×D)
215.4×315×350 mm
Mass   8.2 kg

Power consumption
in standby mode: 0.6 W

Notes:
1. Specifications are subject to change
without notice.
Mass and dimensions are approximate.
2. Total harmonic distortion is measured by
the digital spectrum analyzer.

AMPLIFIER SECTION

For U.S.A. and Canada

Stereo mode power output
  RMS power output
    THD 10 %, both channels driven
      LF 75 Hz   65 W per channel (8 Ω)
      HF 1 kHz   30 W per channel (6 Ω)
    Total stereo mode power   190 W
      LF 55 Hz–100 Hz
                   65 W per channel (8 Ω)
      HF 100 Hz–15 kHz
                   28 W per channel (6 Ω)
Power output in Home Theater mode
  RMS power output
    THD 10 %, both channels driven
      Front
        LF 75 Hz   65 W per channel (8 Ω)
        HF 1 kHz   30 W per channel (6 Ω)
      Center 1 kHz   40 W (8 Ω)
      Surround 1 kHz
                   35 W per channel (8 Ω)
    Total power output   300 W
Input sensitivity
  AUX   250 mV
Input impedance
  AUX   10 kΩ

AMPLIFIER SECTION

For Latin America and others

Stereo mode power output
  RMS power output
    THD 10 %, both channels driven
      LF 75 Hz   80 W per channel (8 Ω)
      HF 1 kHz   35 W per channel (6 Ω)
    Total stereo mode power   230 W
    PMPO power output   1900 W
Power output in Home Theater mode
  RMS power output
    THD 10 %, both channels driven
      Front
        LF 75 Hz   80 W per channel (8 Ω)
        HF 1 kHz   35 W per channel (6 Ω)
      Center 1 kHz   50 W (8 Ω)
      Surround 1 kHz
                   40 W per channel (8 Ω)
    Total power output   360 W
    PMPO power output   2800 W
Input sensitivity
  AUX   250 mV
Input impedance
  AUX   10 kΩ

FM TUNER SECTION

Frequency range
  (For Latin America)
          87.50–108.00 MHz (50 kHz step)
  (For U.S.A., Canada, and others)
          87.9–107.9 MHz (200 kHz step)
          87.5–108.0 MHz (100 kHz step)
Sensitivity   1.8 μV (IHF)
S/N 26 dB   1.5 μV
Antenna terminals   75 Ω (unbalanced)

AM TUNER SECTION

Frequency range
  (For Latin America)
          522–1629 kHz (9 kHz step)
          520–1630 kHz (10 kHz step)
  (For U.S.A., Canada, and others)
          520–1710 kHz (10 kHz step)
Sensitivity
  (For Latin America)
    S/N 20 dB at 999 kHz   500 μV/m
  (For U.S.A., Canada, and others)
    S/N 20 dB at 1000 kHz   500 μV/m

CASSETTE DECK SECTION

Track system   4 track, 2 channel
Heads
  Record/playback   Solid permalloy head
  Erasure   Double gap ferrite head
Motor   DC servo motor
Recording system   AC bias 100 kHz
Erasing system   AC erase 100 kHz
Tape speed   4.8 cm/s (1⁷⁄₈ ips)
Overall frequency response
  (+3, −6 dB at DECK OUT)
  NORMAL (TYPE I)   35 Hz–14 kHz
  HIGH (TYPE II)   35 Hz–14 kHz
S/N ratio   50 dB (A_WTD)
Wow and flutter   0.18 % (WRMS)
Fast forward and rewind time
                    Approx. 120 seconds
                    with C-60 cassette tape

DISC SECTION

Disc
  DVD-Video
    8 cm/12 cm single-sided, single-layer
    8 cm/12 cm single-sided, double-layer
    8 cm/12 cm double-sided, double-layer
                    (One layer per side)
  Video CD/CD   8 cm/12 cm (CD-R/RW)
Video
  Signal system   NTSC

  Output level
    Composite video   1 Vp-p (75 Ω)
    S-VIDEO Y   1 Vp-p (75 Ω)
    S-VIDEO C   0.286 Vp-p (75 Ω/NTSC)
Audio
  Sampling frequency
    CD   44.1 kHz
    DVD   48 kHz/96 kHz
  Decoding   16/20/24 bit linear
  Wow and flutter
                    Below measurable limit
  D/A converter   Delta-sigma DAC
Pick up
  Beam Source   Semiconductor Laser
  Wavelength
    DVD   658 nm
    VCD/CD   790 nm

SPEAKER SECTION

Front speakers SB-DK10

Type   4 way, 4 speaker
                         bass-reflex system
Speakers
  Super woofer   14 cm (5¹⁄₂") cone type
  Woofer   12 cm (4³⁄₄") cone type
  Tweeter   6 cm (2³⁄₈") cone type
  Super tweeter   Piezo type
Impedance
  High frequency   6 Ω
  Low frequency   8 Ω
Input power
  High frequency   60 W (Music)
  Low frequency   120 W (Music)
Output sound pressure level
                         87 dB/W (1.0 m)
Cross over frequency
                    150 Hz, 5 kHz, 10 kHz
Frequency range
                    45 Hz–22 kHz (−16 dB)
                    55 Hz–20 kHz (−10 dB)
Dimensions (W×H×D)
                    173×315×315 mm
                    (6¹³⁄₁₆"×12¹³⁄₃₂"×12¹³⁄₃₂")
Mass   Approx. 4.1 kg (9.0 lb.)

Surround speakers SB-PS90

Type   1 way, 1 speaker,
                         closed system
Speaker
  Full range   8 cm (3¹⁄₈") cone type
Impedance   8 Ω
Input power   70 W (Music)
Output sound pressure level
                         84 dB/W (1.0 m)
Frequency range
                    130 Hz–20 kHz (−16 dB)
                    150 Hz–18 kHz (−10 dB)
Dimensions (W×H×D)
                    140×99×118 mm
                    (5¹⁄₂"×3²⁹⁄₃₂"×4²¹⁄₃₂")
Mass   Approx. 0.9 kg (2.0 lb.)

Center speaker SB-PC93

Type   1 way, 1 speaker,
                         closed system
Speaker
  Full range   8 cm (3¹⁄₈") cone type
Impedance   8 Ω
Input power   70 W (Music)
Output sound pressure level
                         84 dB/W (1.0 m)
Frequency range
                    130 Hz–20 kHz (−16 dB)
                    150 Hz–18 kHz (−10 dB)
Dimensions (W×H×D)
                    140×99×118 mm
                    (5¹⁄₂"×3²⁹⁄₃₂"×4²¹⁄₃₂")
Mass   Approx. 0.8 kg (1.8 lb.)

GENERAL

For U.S.A. and Canada

Power supply   AC 120 V, 60 Hz
Power consumption   161 W
Dimensions (W×H×D)
                    215.4×315×350 mm
                    (8¹⁄₂"×12¹³⁄₃₂"×13²⁵⁄₃₂")
Mass   Approx. 7.8 kg (17.2 lb.)

GENERAL

For Latin America and others

Power supply
                    AC 110/127/220–230/240 V,
                         50/60 Hz
Power consumption
                                191 W
Dimensions (W×H×D)
                    215.4×315×350 mm
Mass   Approx. 8.2 kg

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│ **Power consumption in standby mode** │
│ (For U.S.A. and Canada)   0.25 W │
│ (For Latin America and others)   │
│   0.8 W   │
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Notes:
1. Specifications are subject to change
   without notice.
   Mass and dimensions are approximate.
2. Total harmonic distortion is measured by
   the digital spectrum analyzer.

References

The model number and serial number of this product can be found on either the back or the bottom of the unit.
Please note them in the space provided below and keep for future reference.

	MODEL NUMBER	SERIAL NUMBER
Main unit		
Front speakers		
Center speaker		
Surround speakers		